

GLAMORGAN COUNTY COUNCIL

# ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

FOR THE YEAR 1906,

PREPARED BY

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Summary of the Annual Reports of the District Medical  
Officers of Health.

W. WILLIAMS, M.A., M.D., D.P.H. (GLAN.)

CASTLE

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1907.



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# Glamorgan County Council.

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*To the Chairman and Members of the Sanitary Committee.*

GENTLEMEN,

I have the honour of submitting to you my Annual Report for the year 1906 on the health and sanitary condition of the Administrative County of Glamorgan, together with a summary of the Reports of the District Medical Officers of Health.

The arrangement of the subject matter is the same as that adopted in previous reports, so that the series may be uniform for the purpose of comparison.

This Report would have been ready earlier had all the District Reports been received within the allotted time. Out of a total of 33 Reports received from the District Councils and Port Sanitary Authorities, only two reached me within *six* weeks from the 1st of January, 14 before the end of March, and two as late as June 6th.

It is stated in a Memorandum of the Local Government Board as to Annual Reports of Medical Officers of Health that the Medical Officer of Health ought not, in general, to have any difficulty in preparing his Annual Report within *six weeks*, but if, from any special circumstances, it cannot be completed within this period, it should be presented within at least *three months* from the end of the year.

All the Reports were printed in book or pamphlet form, but there is still need of greater uniformity in their sizes, &c., and I would repeat the suggestions that :—

- (1) All Reports be printed in *demioctavo*, i.e., 8½ by 5½ inches.
- (2) The five statistical tables required by the Local Government Board be printed and appended.

In several instances the tables are simply filled in and fastened to the Reports. These tables, when properly filled up, are most valuable, and they should be printed and included in such a way as to form a part of the Report.

A large number of Special Reports were received, particularly those dealing with School Closure, but I would again call attention to the fact that a copy of every Special Report must be sent, not only to the Local Government Board, but also to the *County Council*.

The question of the provision of Isolation Hospitals has continued to make satisfactory progress, and in a very short time there will not be a District in the County without means of isolating their infected sick.

The work carried out at the Cardiff and County Public Health Laboratory continues to make satisfactory progress, and is much appreciated by District Councils and some medical men.

Much time was devoted to the administration of the Midwives Act, 1902, and the supervision of Midwives and their work, and there are unmistakable signs that this important Act is having the beneficial effects anticipated.



During the year the County Council promoted a Bill in Parliament, "The Glamorgan and South Wales Water Bill," which, as amended in Committee, received the Royal assent.

Now that the County Council have made the enquiries and surveys which they were empowered to do, a second Bill should be promoted without delay with a view of obtaining still further powers.

There are several matters that yet require attention by the Sanitary Committee, viz. :—The consideration of :—

- (1) The sanitary inspection of Schools.
- (2) The medical inspection of scholars.
- (3) The provision of Sanatoria for the *poorer* consumptives.
- (4) The veterinary inspection of dairy cattle and cowsheds.
- (5) The inspection of meat and other articles of food.
- (6) The amendment of the Rivers Pollution Prevention Acts, or the promoting of a Bill with a view of obtaining a Special Act.

Although the County Council has no direct control over several of the above, yet much can be achieved by urging and helping Local Authorities to carry out their duties, but further legislation is needed as regards milk, meat, etc.

The weekly returns of infectious diseases were regularly received, and I take this opportunity of thanking the Medical Officers of Health for their cordial co-operation in this and other matters.

Colonel Henry Lewis, the Chairman of the Sanitary Committee, has rendered invaluable assistance by frequently accompanying me on visits of inspection and inquiry, and his presence has at all times been productive of much good.

The work of the Public Health Department increases rapidly, and especially the correspondence in connection therewith.

I am pleased to say that the relationship existing between myself and staff, and the District Medical Officers of Health, and Medical Practitioners in the County, is of a most cordial character.

I take this opportunity of expressing my great appreciation for the continued support and assistance I have received from the Chairman of the Council, and from the Chairman and Members of the Sanitary and other Committees.

I have the honour to be, Gentlemen,

Your obedient servant,

W. WILLIAMS.

THE COUNTY HEALTH DEPARTMENT,  
9, THE PARADE, CARDIFF.  
6th July, 1907.



## THE ADMINISTRATIVE COUNTY.

## STATISTICS.

## AREA AND POPULATION.

There has been no change in the area of the Administrative County during 1906, and the Sanitary Districts remain the same in number and extent as they were at the end of 1905, and are made up of 19 Urban and 9 Rural Districts.

The population of the Administrative County, according to the Census, 1891, was 467,954. At the time of the Census, 1901, it was 601,092, thus showing an increase for 10 years of 133,792, or 28·6 per cent.

The estimated population of the Administrative County, mid-year 1905, was 669,193, and at mid-year 1906, was 689,278, showing an increase for one year of 20,085, or 2·99 per cent.

Different methods of estimating the population are made use of by various Medical Officers, and such estimates are difficult to make in a County like Glamorgan, where it is common to find large centres of population where a few years ago there was scarcely a house.

The following Table shows the growth of population in the Administrative County from 1891 to 1901, the population in each succeeding year being calculated in geometrical progression. The figures for 1902-1906, represent the estimated population for these years respectively.

TABLE I.

| Year.            | Population. |         |    |    |    | Excess of Births<br>over Deaths. |
|------------------|-------------|---------|----|----|----|----------------------------------|
| 1891 (Census)    | ..          | 467,954 | .. | .. | .. | Not known.                       |
| 1892             | ..          | 479,816 | .. | .. | .. | ..                               |
| 1893             | ..          | 491,984 | .. | .. | .. | 10,012                           |
| 1894             | ..          | 504,456 | .. | .. | .. | 8,882                            |
| 1895             | ..          | 517,246 | .. | .. | .. | 8,995                            |
| 1896             | ..          | 530,360 | .. | .. | .. | 10,551                           |
| 1897             | ..          | 543,805 | .. | .. | .. | 10,128                           |
| 1898             | ..          | 557,592 | .. | .. | .. | 10,739                           |
| 1899             | ..          | 571,730 | .. | .. | .. | 8,385                            |
| 1900             | ..          | 586,225 | .. | .. | .. | 10,089                           |
| 1901 (Census)    | ..          | 601,087 | .. | .. | .. | 10,194                           |
| 1902 (estimated) | ..          | 614,726 | .. | .. | .. | 12,527                           |
| 1903             | ..          | 631,398 | .. | .. | .. | 13,137                           |
| 1904             | ..          | 649,797 | .. | .. | .. | 12,781                           |
| 1905             | ..          | 669,193 | .. | .. | .. | 12,410                           |
| 1906             | ..          | 689,278 | .. | .. | .. | 13,090                           |

Unfortunately the number of births and deaths in the County for the whole of this period is not known, for *all* the District Reports were not sent to me prior to 1894. The average annual excess of births over deaths during the 14 years (1893-1906) was 10,851. This number  $10,851 \times 14 = 151,914$  represents approximately the increase in the population caused by the excess of births over deaths during this period.

The actual increase during this period, however, was 197,294, so that  $197,294 - 151,914 = 45,380$ , which number represents the increase brought about by immigration to the County, mostly of young adults seeking employment at the various mines and works in consequence of the depressed state of agriculture and the inducement of better wages offered.

## BIRTHS.

There were 23,735 births registered in the Administrative County during 1906. This is equivalent to a birth-rate of 34·42. Of these, 17,502 occurred in Urban, and 6,233 in Rural Districts, giving a birth-rate for the former of 34·4, and for the latter of 34·4. The birth-rate shows a decrease of 1·0 as compared with 1905.

The local rates are given in Table I. (Appendix), but the information as to sexes is incomplete in the Reports from Glynorwg, Neath Borough, Gower, and Llantrisant and Llantwit Fardre.

Among the individual Districts the birth-rates vary from 52·3 to 17·4; the highest being 52·3 in Glynorwg; 40·85 in Neath Rural; 40·3 in Aberavon; 39·7 in Gelligaer and Rhigos; 39·0 in Pontardawe East; 38·6 in Ogmore and Garw; 37·4 in Llantrisant and Llantwit Fardre and Caerphilly; and 37·2 in Rhondda.

As is usual, the birth-rates are highest in the industrial and mining Districts and lowest in agricultural and residential Districts.

The birth-rate in England and Wales was 27·0 per 1,000 of the population, which is 0·2 per 1,000 below the rate of 1905, and lower than the rate in any year on record; compared with the average in the 10 years 1896-1905, the birth-rate in 1906 shows a decrease of 1·7 per 1,000.

A decrease of 0·60 per 1,000 has taken place in the County during the same period.

I would again remark that, in addition to the salubrity and sanitation of a District, many conditions combine to influence the death-rate. Amongst others the birth-rate exerts an influence which is frequently overlooked. In the majority of Districts in this County extensive mining and other manufacturing operations are carried on, and the population consists chiefly of comparatively young adults or persons below middle age, with, as a natural accompaniment, a large number of children. Then, since the death-rate among children under five years of age is far higher than during any subsequent period (up to 65), and since the death-rate among persons between 15 and 50 or 55 is lower than the death-rate of all other age periods, it follows that where there is a large percentage of children in proportion to the whole population, the death-rate will necessarily be higher than in a District or County where the population is mainly made up of persons of early or advanced middle life.

In the following Table are given the mean figures for the County for seven years (1893-1899), and for England and Wales for the 10 years (1890-1899), together with the rates for 1900-1906.

| YEAR.     | Birth-rate per 1,000 Population. |        |        |                    |
|-----------|----------------------------------|--------|--------|--------------------|
|           | Glamorgan.                       |        |        | England and Wales. |
|           | General.                         | Urban. | Rural. |                    |
| 1893-1899 | 37'55                            | 39'11  | 33'55  | 30'0 (1890-1899)   |
| 1900      | 35'58                            | 37'58  | 31'39  | 28'7               |
| 1901      | 36'8                             | 38'04  | 33'7   | 28'5               |
| 1902      | 37'8                             | 39'15  | 34'32  | 28'6               |
| 1903      | 36'9                             | 37'6   | 34'90  | 28'4               |
| 1904      | 36'6                             | 37'3   | 34'79  | 27'9               |
| 1905      | 35'9                             | 36'48  | 34'63  | 27'2               |
| 1906      | 34'9                             | 34'4   | 34'4   | 27'0               |

From this it will be seen that the County birth-rate is far in excess of the average for England and Wales, and that there is not a great difference between the birth-rate in the Urban and that in the majority of our so-called Rural Districts.

#### DEATHS.

GENERAL MORTALITY.—The total number of deaths registered was 10,645. Of these, 7,962 occurred in Urban, and 2,683 in Rural Districts ; giving death-rates of 15'66 and 14'81 respectively. The equivalent General Rate is 15'44, which is the same as the average death-rate for England and Wales, and 0'5 lower than that of the 76 great towns.

The number of deaths registered of persons belonging to the County, as far as could be ascertained, was 10,569, which is equivalent to a nett death-rate of 15'3. The nett death-rates range from 8'3 to 19'0. Below are given comparative figures for the County for 1893-1899, and 1900-1906, and for England and Wales for the 10 years 1890-1899 and 1900-1906.

TABLE III.

|                      | Annual Rate of Mortality per 1,000 Population. |             |             |             |              |             |              |             |
|----------------------|--|-------------|-------------|-------------|--------------|-------------|--------------|-------------|
|                      | Mean of 10 years, 1890-99.                     | 1900.       | 1901.       | 1902.       | 1903.        | 1904.       | 1905.        | 1906.       |
| England and Wales..  | 18'3   | 18'2        | 16'9        | 16'3        | 15'4         | 16'2        | 15'2         | 15'4        |
| Town Districts ..    | 19'1   | 18'9        | 17'8        | 17'4        | 15'45        | 17'2        | 15'7         | 15'9        |
| Country Districts .. | 16'7   | 16'6        | 15'7        | 15'3        | 14'8         | 15'3        | 14'9         | 15'1        |
| <b>Glamorgan</b> ... | <b>19'2*</b>                                   | <b>18'6</b> | <b>19'5</b> | <b>17'4</b> | <b>16'11</b> | <b>16'9</b> | <b>17'43</b> | <b>15'4</b> |
| Urban Districts ..   | 20'3*  | 19'6        | 20'65       | 18'34       | 16'38        | 17'6        | 17'99        | 15'6        |
| Rural Districts ..   | 16'6*  | 15'9        | 16'52       | 15'14       | 15'37        | 15'2        | 15'87        | 14'8        |

\* The period covered by the Glamorgan rates is seven years—1893-1899—as no returns were available before.

In small Districts there are always considerable fluctuations of death-rates from year to year, whereas in populations of 1,000 and upwards these fluctuations are not so marked. In residential and suburban Districts low birth and high death-rates prevail, owing to the excess of unmarried adults in these places. It is erroneous to suppose that certain Districts, because they happen to have low death-rates, are healthy.

Arranged in the order of their nett death-rates, the Districts stand thus:—

|   |       |  |       |
|---|-------|--|-------|
| Merthyr Borough .. .. .                 | 19·0  | Gower .. .. .                              | 14·5  |
| Cowbridge Borough .. .. .               | 18·3  | Pontardawe West .. .. .                    | 14·45 |
| Aberdare .. .. .                        | 17·52 | Maesteg .. .. .                            | 14·28 |
| Pontardawe (East) .. .. .               | 17·5  | Margam .. .. .                             | 13·9  |
| Neath Rural .. .. .                     | 17·41 | Pontypridd .. .. .                         | 13·8  |
| Caerphilly and Rhondda .. .. .          | 16·2  | Penybont .. .. .                           | 13·61 |
| Neath Borough .. .. .                   | 16·06 | Aberavon and Llangyfelach Division .. .. . | 13·5  |
| Gelligaer and Rhigos .. .. .            | 15·6  | Llandilo-Talybont Division .. .. .         | 13·2  |
| Llantrisant and Llantwit Fardre .. .. . | 15·5  | Porthcawl .. .. .                          | 12·8  |
| Briton Ferry .. .. .                    | 15·3  | Llandaff and Dinas Powis .. .. .           | 12·18 |
| Glyncorwg .. .. .                       | 15·23 | Cowbridge .. .. .                          | 11·2  |
| Ogmore and Garw .. .. .                 | 14·9  | Barry .. .. .                              | 10·9  |
| Bridgend .. .. .                        | 14·77 | Oystermouth.. .. .                         | 10·6  |
| Mountain Ash .. .. .                    | 14·6  | Penarth .. .. .                            | 8·3   |

Of the total deaths registered, 3,585 were those of children under one year, and 1,286 of children one year of age and under five years. This is equivalent to 33·6 and 12·08 per cent. respectively.

#### INFANTILE MORTALITY.

Of every 1,000 children whose births were registered, 151 died before completing the first year of life as compared with 166 in 1905. This calculation is based upon ascertained figures, *i.e.*, the number of births registered and the number of deaths under one year of age, and, therefore, it has not the uncertainty which attaches to the other rates of mortality, which are based upon estimates of population, and which can only be approximately proved.

The various Sanitary Districts are tabulated below in order of their Infantile Mortality rate:—

|                              |     |   |      |
|------------------------------|-----|---|------|
| Aberdare .. .. .             | 209 | Neath Rural .. .. .                     | 131  |
| Merthyr .. .. .              | 179 | Llantrisant and Llantwit Fardre .. .. . | 123  |
| Rhondda .. .. .              | 174 | Llangyfelach Division .. .. .           | 117  |
| Mountain Ash .. .. .         | 170 | Margam .. .. .                          | 116  |
| Pontardawe East .. .. .      | 168 | Neath Borough .. .. .                   | 116  |
| Pontypridd .. .. .           | 164 | Penybont .. .. .                        | 116  |
| Ogmore and Garw .. .. .      | 157 | Barry .. .. .                           | 114  |
| Caerphilly .. .. .           | 154 | Bridgend .. .. .                        | 102  |
| Gelligaer and Rhigos .. .. . | 143 | Llandaff and Dinas Powis .. .. .        | 95   |
| Glyncorwg .. .. .            | 141 | Cowbridge Rural .. .. .                 | 89   |
| Briton Ferry .. .. .         | 140 | Penarth .. .. .                         | 80   |
| Aberavon .. .. .             | 140 | Oystermouth.. .. .                      | 76   |
| Pontardawe West .. .. .      | 137 | Gower .. .. .                           | 57   |
| Maesteg .. .. .              | 136 | Porthcawl .. .. .                       | 43   |
| Llandilo-Talybont .. .. .    | 136 | Cowbridge Borough .. .. .               | Nil. |



It will be noticed that these rates vary immensely. In individual Districts the highest Urban rates were—Aberdare (209) ; Merthyr (179) ; Rhondda (174) ; and Mountain Ash (170) ; while in Cowbridge Borough it was nil, and in Oystermouth, Gower, and Porthcawl it was extremely low.

The causes of this high Infantile Mortality are discussed at some length in many of the reports, and are generally acknowledged to be largely preventable.

Among the important causes are mentioned :—

- (a) Early marriages.
- (b) Improper feeding, clothing, and care of the infant the latter being due to ignorance, and not so much to lack of care.
- (c) Antenatal conditions affecting the unborn child through the mother, *e.g.*—alcoholism, syphilis, and employment of mothers outside the home, &c.
- (d) Want of skilled assistance during and after labour.
- (e) Domestic evils, dirty and overcrowded houses, neglect of parents on account of intemperance.
- (f) Insanitary surroundings.
- (g) The substitution of artificial for breast feeding, thus incurring the evils which attend the use of an often unsatisfactory and adulterated milk supply.
- (h) Indifference on the part of parents to the dangers of Measles, Whooping Cough, Diarrhœa, &c.

That overcrowding and insanitary conditions are important factors in bringing about this high Infantile Mortality in the industrial Districts of the County cannot be disputed, and as these are evils capable of being remedied, no efforts should be spared by Sanitary Authorities to cope with them.

On examining Table IV. (Appendix) it will be seen that more than one-third died under one month, and that the chances of surviving become greater month by month. It will be further seen that the diseases, etc., which contributed mostly to this mortality were—Diarrhœa, Debility and Marasmus, Convulsions, Bronchitis, and Pneumonia.

Among the remedial measures indicated are :—

- I.—Instruction in the laws of health, including the feeding and care of infants, thrift, temperance, and moral instruction to the higher standards for girls, and the formation of continuation classes in these subjects.
- II.—The education of the expectant mother as to personal health, the importance of suckling, and the care of the infant generally.
- III.—The distribution of leaflets on the feeding and care of infants, etc.
- IV.—The control and supervision of milk supplied to infants that are artificially fed.
- V.—The notification of all births to the Medical Officer of Health within 48 hours.

VI.—Better methods of protection of infant life, especially—

- (a) Those born out of wedlock and farmed out.
- (b) The registration of still births.
- (c) The removal of infants from undesirable parents, and
- (d) The provision of skilled assistance at birth.

VII.—Special attention to the cleansing of streets, flushing of gullies, and the early and complete removal of all offensive accumulations, especially during the summer months.

Up to the present the efforts made to reduce this high Infantile Mortality rate have met with but little success. Public interest, however, has been stimulated by the prominence given to this great wastage of life, in the press, and by the National Conference on Infantile Mortality held in London last year, and in which the President of the Local Government Board took such a leading part. The Right Hon. John Burns, in the course of his inaugural address, reviewed several important aspects of the question, and promised legislative support should the solution of the problem which had originated the Conference be likely to be promoted by such means.

The following resolutions were passed by the Conference :—

- 1.—That the Education Department be urged to add instruction in elementary hygiene with reference to the dietary and rearing of infants to their present scheme for systematically training girls in the senior classes in the practice and principles of personal hygiene and the elements of dietary.
- 2.—That, in the opinion of this Conference, immediate legislation is required enabling Sanitary Authorities to establish or support dépôts for the supply of pure, or modified, or sterilized milk, and to defray any cost out of the monies available for public health purposes.
- 3.—That, in view of the information submitted, the Conference is of opinion that all still-births should be notified within 48 hours to the Medical Officer of Health of the District in which they occur, and that no burial should take place without a medical certificate.
- 4.—That notification of all births be given within 48 hours to the Medical Officer of Health of the District in which they occur.
- 5.—That, in the opinion of this Conference, the question of the insurance of infant lives under twelve months is one demanding serious consideration, and, with a view to receiving reliable information, the Government should be asked to appoint a Departmental Committee of Inquiry on the whole question.
- 6.—(a) That the period of one month's abstention from factory work away from home now imposed on mothers, be extended to at least three months, and that, on their return to work, evidence must be produced satisfactory to the Local Authority that proper provision has been made for the care of the child.  
(b) That no employer of labour shall permit a woman advanced in pregnancy to engage in factory labour unless her ability therefor has been certified to the satisfaction of the Local Authority.

- 7.—(a) That, having regard to the ascertained fact that in centres of industries where women are largely employed away from their homes, an excessive number of deaths of infants takes place, and that this is contributed to by the improper conditions existing at the houses in which the infants are placed out to nurse, it is necessary that the persons by whom and the places into which infants are received should be under supervision by the local sanitary authority.
- (b) That the Infant Life Protection Act be amended to remedy abuses which are not at present provided against.
- 8.—That all preparations offered or sold as food for infants should be certified by a Government analyst as non-injurious, and that each packet should contain its analysis.
- 9.—That the Dairies, Milkshops, and Cowsheds Order is defective, and that any amendment should extend the definition of disease as applied to animals, and should make the provision of regulations by Local Authorities compulsory. That the scope of the regulations should be extended to cover dirty milk, and should enable Local Authorities to prohibit the sale of any milk which fails to comply with the conditions of purity agreed upon.
- 10.—That, in the opinion of this Conference, the appointment of qualified women specially trained in the hygiene of infancy is necessary as an adjunct to public health work.
- 11.—That, in the opinion of this Conference, the Midwives Act, 1902, should be extended to Scotland and Ireland.

It is significant that during the present Parliamentary Session several Bills giving effect to one or more of the above resolutions have been introduced, and it is expected that, if pressure of other business so allow, they will become law in the immediate future.

Among these are :—

- (1) A Bill to provide for the Early Notification of Births (cf. Resolutions 3 and 4).
- (2) A Bill to enable regulations to be made for the prevention of danger arising to public health from the importation, preparation, storage, and distribution of articles of food (cf. Resolution 8).
- (3) A Bill to authorise and regulate the establishment of Milk Depôts by certain Local Authorities and some matters incidental thereto (cf. Resolution 2).

The work of reducing this appalling Mortality of Infants should not be left to Sanitary and Education Authorities only. It is a work in which the parents should be made to realise their responsibilities, and in which Social, Philanthropic, and Religious Institutions have great opportunities of assisting. It is only by the hearty and intelligent co-operation of municipal and social efforts that the best results can be obtained.

#### ZYMOTIC DISEASES.

**Small Pox, Measles, Scarlet Fever, Membranous Croup, Whooping Cough, Fever (including Typhus, Enteric and other continued), and Diarrhœa.**

The seven principal epidemic diseases caused 1,309 deaths, which is equivalent to a County rate of 1·89, as compared with 2·57 for 1905, and 1·73 for England and Wales.



The number of deaths attributed to the several diseases are given below :—

TABLE IV.

| DISTRICTS.            |    |    |    |    | Small<br>Pox. | Measles. | Scarlet<br>Fever. | Diphtheria<br>and<br>Membran-<br>ous Croup. | Whooping<br>Cough. | Fever. | Diarrhœa. | Total. |
|-----------------------|----|----|----|----|---------------|----------|-------------------|---|--------------------|--------|-----------|--------|
| Urban                 | .. | .. | .. | .. | —             | 43       | 45                | 111   | 133                | 115    | 605       | 1,052  |
| Rural                 | .. | .. | .. | .. | —             | 39       | 11                | 36  | 47                 | 46     | 78        | 257    |
| Administrative County | .. | .. |    |    | —             | 82       | 56                | 147   | 180                | 161    | 683       | 1,309  |

Arranged in the order of their zymotic death-rates the various Districts stand thus :—

|                                 |    |    |    |    |      |                            |    |    |    |    |      |
|---------------------------------|----|----|----|----|------|----------------------------|----|----|----|----|------|
| Merthyr Borough                 | .. | .. | .. | .. | 2.9  | Neath Rural                | .. | .. | .. | .. | 1.4  |
| Gelligaer and Rhigos            | .. | .. | .. | .. | 2.7  | Llandaff and Dinas Powis   | .. | .. | .. | .. | 1.23 |
| Maesteg                         | .. | .. | .. | .. | 2.5  | Barry                      | .. | .. | .. | .. | 1.1  |
| Rhondda                         | .. | .. | .. | .. | 2.4  | Llandilo-Talybont Division | .. | .. | .. | .. | 0.91 |
| Aberdare                        | .. | .. | .. | .. | 2.06 | Penybont                   | .. | .. | .. | .. | 0.87 |
| Caerphilly                      | .. | .. | .. | .. | 2.0  | Bridgend                   | .. | .. | .. | .. | 0.81 |
| Neath Borough                   | .. | .. | .. | .. | 1.93 | Glyncorwg                  | .. | .. | .. | .. | 0.8  |
| Pontypridd                      | .. | .. | .. | .. | 1.75 | Pontardawe (West)          | .. | .. | .. | .. | 0.6  |
| Ogmore and Garw                 | .. | .. | .. | .. | 1.71 | Pontardawe (East)          | .. | .. | .. | .. | 0.55 |
| Aberavon Borough                | .. | .. | .. | .. | 1.70 | Penarth                    | .. | .. | .. | .. | 0.5  |
| Llangyfelach Division           | .. | .. | .. | .. | 1.66 | Cowbridge Rural            | .. | .. | .. | .. | 0.3  |
| Llantrisant and Llantwit Fardre | .. | .. | .. | .. | 1.65 | Gower                      | .. | .. | .. | .. | 0.2  |
| Briton Ferry                    | .. | .. | .. | .. | 1.5  | Cowbridge Borough          | .. | .. | .. | .. | 0.0  |
| Margam                          | .. | .. | .. | .. | 1.42 | Oystermouth..              | .. | .. | .. | .. | 0.0  |
| Mountain Ash                    | .. | .. | .. | .. | 1.4  | Porthcawl                  | .. | .. | .. | .. | 0.0  |

In the following Table are given the annual death-rate from *All Causes*, and the *Principal Zymotic Diseases* for the County, and for England and Wales, during the year 1906 :—

TABLE V.

| DISTRICTS.                                     |  |  |  | All<br>Causes. | Principal<br>Zymotic<br>Diseases. | Small<br>Pox. | Measles.    | Scarlet<br>Fever. | Diphtheria<br>and<br>Membranous<br>Croup. | Whooping<br>Cough. | Fever.      | Diarrhœa.   | Deaths under<br>one year per<br>1,000 Births. |
|--|--|--|--|----------------|-----------------------------------|---------------|-------------|-------------------|---|--------------------|-------------|-------------|---|
| <b>England and Wales</b> ... ..                |  |  |  | <b>15.4</b>    | <b>1.73</b>                       | <b>0.00</b>   | <b>0.27</b> | <b>0.10</b>       | <b>0.17</b>                               | <b>0.23</b>        | <b>0.09</b> | <b>0.87</b> | <b>133</b>                                    |
| 76 Great Towns .. ..                           |  |  |  | 15.9           | 2.24                              | 0.00          | 0.40        | 0.12              | 0.19                                      | 0.28               | 0.09        | 1.16        | 145   |
| 142 Smaller Towns .. ..                        |  |  |  | 14.5           | 1.71                              | 0.00          | 0.22        | 0.09              | 0.17                                      | 0.20               | 0.09        | 0.94        | 138   |
| England and Wales <i>less</i> the 218<br>Towns |  |  |  | 15.1           | 1.18                              | 0.00          | 0.14        | 0.08              | 0.16                                      | 0.19               | 0.09        | 0.52        | 116   |
| <b>Glamorgan</b> ... ..                        |  |  |  | <b>15.44</b>   | <b>1.89</b>                       | <b>0.00</b>   | <b>0.11</b> | <b>0.08</b>       | <b>0.21</b>                               | <b>0.26</b>        | <b>0.23</b> | <b>0.99</b> | <b>151</b>                                    |
| Urban Districts .. ..                          |  |  |  | 15.66          | 2.06                              | 0.00          | 0.08        | 0.08              | 0.21                                      | 0.26               | 0.22        | 1.17        | 160   |
| Rural Districts .. ..                          |  |  |  | 14.81          | 1.41                              | 0.00          | 0.21        | 0.06              | 0.19                                      | 0.25               | 0.25        | 0.40        | 125   |

From the above figures it will be seen that the general death-rate for the County is *the same* as that for England and Wales, 0·44 *lower* than the 76 great towns, 0·94 higher than that for the 142 smaller towns, and 0·34 higher than England and Wales *less* the 218 towns.

The death-rate from the principal zymotic diseases is 0·16 higher than that for England and Wales, 0·35 lower than for the 76 great towns, 0·18 higher than the 142 smaller towns, and 0·71 higher than England and Wales *less* the 218 towns.

The death-rate from Small Pox is the same as that for England and Wales, viz., 0·00

The death-rate for Measles is 0·16 *lower* than that for England and Wales, 0·29 *lower* than the 76 great towns, 0·11 *lower* than the 142 smaller towns, and 0·03 *lower* than England and Wales *less* the 218 towns.

The death-rate from Scarlet Fever is 0·02 *lower* than that for England and Wales, 0·04 *lower* than the 76 great towns, 0·01 *lower* than the 142 smaller towns, and the same as England and Wales *less* the 218 towns.

The death-rate from Diphtheria and Membranous Croup, Whooping Cough, Fever, and Diarrhœa are higher than those for England and Wales.

The Infantile Mortality Rate is 151 as compared with England and Wales 133.

#### SMALL POX.

Two cases of Small Pox were notified as compared with 21 in 1905. The cases were distributed thus :—Barry, 1 ; Merthyr Borough, 1 ; the cases were removed to and treated at Hospitals.

#### MEASLES.

Measles is not notifiable in any Sanitary District, and therefore there is no correct information available of the amount of sickness occasioned by this disease.

Judging by the number of deaths, and the reference made to this disease in the local summaries, it was considerably less prevalent in the County, and to it are attributable 82 deaths—43 in Urban, and 39 in Rural Districts—as compared with 571 deaths in 1905. This is equivalent to a death-rate of 0·11—0·08 in Urban and 0·21 in Rural Districts. The rate for England and Wales was 0·27.

The fact that Measles is probably infectious before the appearance of the rash is obviously an unfortunate element in the problem of the control, and, even if notification existed throughout the County, it is doubtful whether, with the present staff of Inspectors, much could be done in this direction.

In Rural Districts, on the other hand, much can be done whereby the extension of Measles through the invaded areas may be checked, by measures such as :—

- I. Information furnished by Sanitary Authorities to School Authorities (and *vice versa*).
- II. Exclusion from Schools of members of households invaded by Measles ; and by
- III. Judicious School closure.

The disease contributed 2,081 cases of illness and 56 deaths, as compared with 3,039 cases and 107 deaths in 1905.

This mortality is equivalent to a rate of 0·08—0·08 in Urban, and 0·06 in Rural Districts. The rate for England and Wales was 0·10. In the following Table are given the comparative figures for the County for a period of eight years, 1893-1900; and for 1901-1906; and for England and Wales for the period of 10 years, 1891-1900, and for 1901-1906.

TABLE VI.

| YEAR.      | Death-rate per 1,000 Population. |        |        |                    |
|------------|----------------------------------|--------|--------|--------------------|
|            | Glamorgan.                       |        |        | England and Wales. |
|            | General.                         | Urban. | Rural. |                    |
| 1893-1900. | 0·17                             | 0·18   | 0·14   | 1891-1900.<br>0·16 |
| 1901       | 0·22                             | 0·2    | 0·15   | 0·13               |
| 1902       | 0·22                             | 0·25   | 0·14   | 0·15               |
| 1903       | 0·25                             | 0·28   | 0·15   | 0·12               |
| 1904       | 0·19                             | 0·21   | 0·14   | 0·11               |
| 1905       | 0·15                             | 0·17   | 0·12   | 0·11               |
| 1906       | 0·08                             | 0·08   | 0·06   | 0·10               |

The highest rates are recorded from Rhondda (0·7); Aberdare (0·22); Llandilo-Talybont (0·18); and Penybont (0·16).

That the disease was of a mild character is shown by the fact that the case-mortality per cent. was 2·6.

Of the 2,118 cases, 216 *only* were removed to and treated at Infectious Diseases Hospitals. Indeed, the majority of our existing Isolation Hospitals are sadly in need of accommodation for Scarlet Fever cases, and consist mostly of two pavilions, one for Enteric, and the other for Diphtheria cases.

Timely and efficient isolation of the first cases is of great importance, and should always be borne in mind. Other precautionary measures should also be enforced, such as the judicious closure of Schools, and the adequate disinfection of the sufferers, the infected dwellings, and articles of bedding and clothing.

That the mortality is not a true index of the mischief of the case in many diseases is particularly true in the case of Scarlet Fever, and the permanent injuries inflicted by this disease are many, and cannot be accurately traced; this fact alone is a strong reason for taking all possible precautions against the spread of the disease.

## DIPHTHERIA AND MEMBRANOUS CROUP.

There were notified 1,120 cases, resulting in 147 deaths, as compared with 1,454 cases and 172 deaths in 1905. This mortality is equivalent to a rate of 0·21—0·29 in Urban Districts, and 0·19 in Rural Districts. The rate for England and Wales was 0·17.

In the following Table are given comparative figures for the County, and for England and Wales, for the period of 14 years, 1893-1906.

TABLE VII.

| YEAR. | Death-rate per 1,000 Population. |        |        |                    |
|-------|----------------------------------|--------|--------|--------------------|
|       | Glamorgan.                       |        |        | England and Wales. |
|       | General.                         | Urban. | Rural. |                    |
| 1893  | 0·27                             | 0·23   | 0·32   | 0·29               |
| 1894  | 0·24                             | 0·24   | 0·24   | 0·28               |
| 1895  | 0·39                             | 0·27   | 0·27   | 0·25               |
| 1896  | 0·39                             | 0·26   | 0·21   | 0·29               |
| 1897  | 0·45                             | 0·45   | 0·24   | 0·24               |
| 1898  | 0·66                             | 0·78   | 0·31   | 0·24               |
| 1899  | 0·79                             | 0·92   | 0·41   | 0·29               |
| 1900  | 0·76                             | 0·82   | 0·57   | 0·29               |
| 1901  | 0·82                             | 0·87   | 0·69   | 0·29               |
| 1902  | 0·52                             | 0·51   | 0·50   | 0·23               |
| 1903  | 0·36                             | 0·31   | 0·48   | 0·18               |
| 1904  | 0·25                             | 0·20   | 0·39   | 0·17               |
| 1905  | 0·25                             | 0·23   | 0·40   | 0·16               |
| 1906  | 0·21                             | 0·21   | 0·19   | 0·17               |

The highest death-rates were recorded at Caerphilly (0·48); Llantrisant and Llantwit Fardre (0·41); Merthyr Borough (0·41); Briton Ferry (0·37); Penybont (0·31); Mountain Ash (0·28); Llangyfelach Division (0·26); and Gelligaer and Rhigos (0·22).

In the following page is shown in tabular form the *cases, deaths, case-rates, per 1,000 population case-mortality per cent., and death-rate per 1,000 population.*

THE DISTRIBUTION OF DIPHTHERIA AND MEMBRANOUS CROUP  
THROUGHOUT THE COUNTY.

TABLE VIII.

| DISTRICTS.                      | Estimated<br>Population,<br>1906. | Cases. | Deaths. | Case-rate<br>per 1,000<br>Population. | Case-<br>mortality<br>per cent. | Death-rate<br>per 1,000<br>Population. |
|---------------------------------|-----------------------------------|--------|---------|---------------------------------------|---------------------------------|--|
| <b>URBAN.</b>                   |                                   |        |         |                                       |                                 |  |
| Aberavon (Borough) .. ..        | 7,950                             | 4      | —       | 0·5                                   | —                               | —                                      |
| Aberdare .. ..                  | 48,500                            | 114    | 10      | 2·3                                   | 8·7                             | 0·20                                   |
| Barry .. ..                     | 31,272                            | 22     | 4       | 0·7                                   | 18·11                           | 0·12                                   |
| Bridgend .. ..                  | 7,244                             | 11     | 1       | 1·5                                   | 9·0                             | 0·13                                   |
| Briton Ferry .. ..              | 8,000                             | 20     | 3       | 0·25                                  | 15·0                            | 0·37                                   |
| Caerphilly .. ..                | 22,500                            | 47     | 11      | 2·08                                  | 23·4                            | 0·48                                   |
| Cowbridge (Borough) .. ..       | 1,202                             | —      | —       | —                                     | —                               | —                                      |
| Glyncorwg .. ..                 | 7,500                             | 10     | —       | —                                     | —                               | —                                      |
| Maesteg .. ..                   | 22,468                            | 6      | 3       | 0·26                                  | 50·0                            | 0·13                                   |
| Margam .. ..                    | 10,500                            | 41     | —       | 3·9                                   | —                               | —                                      |
| Merthyr Tydfil (Borough) ..     | 74,961                            | 120    | 31      | 1·6                                   | 25·8                            | 0·41                                   |
| Mountain Ash .. ..              | 41,224                            | 65     | 12      | 1·57                                  | 18·4                            | 0·28                                   |
| Neath Borough .. ..             | 15,000                            | 6      | 2       | 0·4                                   | 33·33                           | 0·13                                   |
| Ogmore and Garw .. ..           | 22,800                            | 19     | 4       | 0·82                                  | 21·5                            | 0·17                                   |
| Oystermouth .. ..               | 4,780                             | 4      | —       | 0·83                                  | —                               | —                                      |
| Penarth .. ..                   | 15,300                            | 60     | 3       | 3·9                                   | 5·00                            | 0·19                                   |
| Pontypridd .. ..                | 36,921                            | 65     | 2       | 1·76                                  | 3·07                            | 0·05                                   |
| Porthcawl .. ..                 | 2,400                             | 1      | —       | 0·41                                  | —                               | —                                      |
| Rhondda .. ..                   | 127,684                           | 194    | 25      | 1·51                                  | 12·88                           | 0·19                                   |
| <b>RURAL.</b>                   |                                   |        |         |                                       |                                 |  |
| Cowbridge .. ..                 | 7,800                             | 9      | —       | 1·15                                  | —                               | —                                      |
| Gelligaer and Rhigos .. ..      | 26,760                            | 59     | 6       | 2·20                                  | 1·01                            | 0·22                                   |
| Gower .. ..                     | 7,266                             | 7      | —       | 0·96                                  | —                               | —                                      |
| Llandaff and Dinas Powis..      | 25,841                            | 70     | 3       | 2·6                                   | 4·1                             | 0·11                                   |
| Llantrisant and Llantwit Fardre | 12,097                            | 24     | 5       | 1·9                                   | 20·8                            | 0·41                                   |
| Neath .. ..                     | 28,201                            | 28     | 6       | 0·9                                   | 21·4                            | 0·21                                   |
| Penybont .. ..                  | 16,014                            | 25     | 5       | 1·56                                  | 20·0                            | 0·31                                   |
| Pontardawe :—                   |                                   |        |         |                                       |                                 |  |
| East Division .. ..             | 10,700                            | 1      | 1       | 0·09                                  | 100                             | 0·09                                   |
| West „ .. ..                    | 13,205                            | 14     | 3       | 1·06                                  | 21·4                            | 0·22                                   |
| Swansea :—                      |                                   |        |         |                                       |                                 |  |
| Llangyfelach Division ..        | 22,370                            | 18     | 6       | 0·80                                  | 33·33                           | 0·26                                   |
| Llandilo-Talybont Division ..   | 10,998                            | 56     | 1       | 5·09                                  | 1·78                            | 0·09                                   |

There were no fatal cases of this disease in Aberavon, Cowbridge Borough, Glyncorwg, Margam, Oystermouth, Porthcawl, Cowbridge Rural, and Gower.

The following Table gives for the County, as a whole, particulars similar to those given for Districts in the previous Table.



On examining the figures given below it will be seen that—

Firstly—The number of cases gradually increased from 1894-1899, when it reached its maximum. During 1900-1901, the number of cases was about the same, and since that time there has been a gradual diminution in the incidence of this disease.

Secondly—The case-rate per 1,000 population has rapidly increased year by year up to 1899, when it was 8·96, afterwards it has steadily dropped to 1·62. For the year under review it is 1·62.

Thirdly—The case-mortality per cent. has gradually decreased from 60·93 in 1894 to 9·58 in 1899, which is the lowest on record.

Fourthly—The death-rate for 1906 is 0·21, being the lowest on record.

TABLE IX.

| Year. | Population. | Cases. | Deaths. | Case-rate per 1,000 Population. | Case-mortality per cent. | Death-rate per 1,000 Population. |
|-------|-------------|--------|---------|---------------------------------|--------------------------|----------------------------------|
| 1893  | 491,984     | 302    | 137     | 0·61                            | 45·36                    | 0·27                             |
| 1894  | 504,456     | 215    | 131     | 0·42                            | 60·93                    | 0·25                             |
| 1895  | 517,246     | 385    | 220     | 0·76                            | 57·14                    | 0·43                             |
| 1896  | 530,360     | 600    | 203     | 1·13                            | 33·83                    | 0·38                             |
| 1897  | 543,805     | 925    | 271     | 1·70                            | 29·29                    | 0·49                             |
| 1898  | 557,592     | 2,197  | 404     | 3·94                            | 18·36                    | 0·72                             |
| 1899  | 571,730     | 5,123  | 491     | 8·96                            | 9·58                     | 0·85                             |
| 1900  | 586,225     | 3,583  | 484     | 6·11                            | 13·50                    | 0·82                             |
| 1901  | 601,088     | 3,660  | 495     | 6·08                            | 10·78                    | 0·82                             |
| 1902  | 604,736     | 2,562  | 325     | 4·16                            | 12·68                    | 0·52                             |
| 1903  | 631,398     | 1,718  | 228     | 2·72                            | 13·27                    | 0·36                             |
| 1904  | 649,797     | 1,330  | 166     | 2·04                            | 12·48                    | 0·25                             |
| 1905  | 669,193     | 1,454  | 172     | 2·17                            | 11·89                    | 0·25                             |
| 1906  | 689,278     | 1,120  | 147     | 1·62                            | 13·12                    | 0·21                             |

It should be remembered that Diphtheria during recent years not only prevailed abnormally in Glamorgan, but also other Counties similarly constituted suffered most severely, such as Leicestershire, Monmouthshire, Staffordshire, West Riding of Yorkshire, &c.

With regard to the decrease in the mortality-rate there are probably several causes at work, viz. :—

- (a) The facilities offered to Medical Practitioners for the bacteriological diagnosis of this disease, thus bringing to light cases which otherwise would have remained undiagnosed.

The number of swabs examined during the year at the County Laboratory was 477, as compared with 291 and 270 in 1904 and 1905 respectively.

- (b) The more general use of antitoxin serum during recent years. The majority of Medical Practitioners use it in every case, and of its value there can be no doubt.

- (c) The disease has pervaded nearly the whole County since 1897.

### WHOOPIING COUGH.

As Whooping Cough is notified in the Llandaff and Dinas Powis District only, where there were 62 cases and 5 deaths, the extent of its ravages can only be measured by its death roll.

To it are ascribed 180 deaths as compared with 246 in 1905. This is equivalent to a death-rate of 0·26 as compared with 0·23 for England and Wales.

In the following Table are given corresponding figures and rates for the last 14 years :—

TABLE X.

| WHOOPIING COUGH. | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. | 1901. | 1902. | 1903. | 1904. | 1905. | 1906. |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Deaths .. ..     | 100   | 170   | 208   | 219   | 258   | 160   | 244   | 232   | 290   | 153   | 186   | 303   | 246   | 180   |
| Death-rate .. .. | 0·20  | 0·33  | 0·40  | 0·41  | 0·47  | 0·28  | 0·42  | 0·39  | 0·48  | 0·24  | 0·29  | 0·46  | 0·36  | 0·26  |

The highest death-rates are recorded from Margam (0·85); Aberavon (0·62); Gelligaer and Rhigos (0·59); Maesteg (0·57); Aberdare (0·51); Llandilo-Talybont (0·45); and Llantrisant and Llantwit Fardre (0·41).

No deaths occurred at Bridgend, Cowbridge Borough, Oystermouth, Porthcawl, and Pontardawe East.

Besides giving the deaths occasioned by this disease, in the majority of the Reports there is no other information. In addition to a large *direct* mortality, it is also the cause of a considerable *indirect* mortality annually, leaving the child an easy prey, especially to lung troubles and phthisis. This mortality could be much reduced if the disease was regarded more seriously by parents, and the patients more carefully nursed.

Owing to the long period of the infectivity of Whooping Cough, the disease is an extremely difficult one to prevent the spread of, and all that is practicable at present is that Sanitary Authorities and Teachers in Elementary Schools should co-operate in preventing its spread.



## FEVER.

In Table IV. of the Local Government Board the term "Fever" appears at the head of the three columns, the sub-headings being "Typhus," "Enteric," and "Other Continued." To these diseases are attributed 70 deaths, viz. :—68 Enteric Fever, and 2 Other Continued.

### TYPHUS FEVER.

No cases of this disease occurred throughout the year.

### TYPHOID OR ENTERIC FEVER.

There were 554 cases of this disease notified, and 68 deaths attributed to this cause, as compared with 615 cases, and 89 deaths in 1905. This corresponds to a death-rate of 0·09.

The highest death-rates were recorded from Llandilo-Talybont (0·27); Aberavor (0·25); Penybont and Rhondda (0·16); Gelligaer and Rhigos and Merthyr (0·14); Glyncoiwg (0·13); Briton Ferry and Mountain Ash (0·12).

There were no deaths from this disease in Bridgend, Briton Ferry, Caerphilly, Cowbridge Borough, Margam, Oystermouth, Penarth, Porthcawl, Cowbridge Rural, Gower, Llandilo-Talybont, Pontardawe East, and Pontardawe West.

Particulars of the number of cases and deaths are given in Tables II. and III. (Appendix).

Particulars of the outbreaks that occurred during the year are given in the local summaries, and in my Quarterly Reports, and are not referred to at any length here.

In the following Table corresponding figures and rates are given for the past 14 years, 1893-1906 :—

TABLE XI.

| ENTERIC FEVER.            |               | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. | 1901. | 1902. | 1903. | 1904. | 1905. | 1906. |
|---------------------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Administrative<br>County. | Cases .. ..   | 825   | 703   | 748   | 665   | 652   | 840   | 1,487 | 1,156 | 913   | 697   | 993   | 809   | 615   | 554   |
|                           | Deaths .. ..  | 194   | 105   | 105   | 99    | 93    | 105   | 215   | 173   | 146   | 123   | 127   | 95    | 89    | 68    |
|                           | Death-rate .. | 0·39  | 0·20  | 0·20  | 0·18  | 0·17  | 0·18  | 0·37  | 0·29  | 0·24  | 0·23  | 0·20  | 0·14  | 0·13  | 0·09  |
| England<br>and<br>Wales.  |               |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|                           | Death-rate .. | 0·228 | 0·159 | 0·17  | 0·16  | 0·15  | 0·18  | 0·19  | 0·17  | 0·21  | 0·10  | 0·13  | 0·09  | 0·09  | 0·09  |

It is encouraging to put on record that the Typhoid death-rate is the *lowest ever* reported in this County and exactly corresponds with that for England and Wales.

In individual Districts the highest rates occurred in Llandilo-Talybont (0·16) ; Aberavon (0·25) ; Rhondda and Penybont (0·16). No deaths occurred at Bridgend, Caerphilly, Cowbridge Borough, Neath Borough, Oystermouth, Porthcawl, Cowbridge Rural, Gower, and Pontardawe—representing a population of about 100,000. In no instance was there a widespread epidemic, and the disease did not become prevalent except in a few instances noted below :—

*Maesteg*.—23 cases were notified, and 1 ended fatally, but of the 23 cases, 15 are reported to have been contracted directly out of pre-existing cases.

*Merthyr Borough*.—In connection with the cases notified, drainage defects were discovered in the houses where the patients resided.

*Pontypridd*.—The total number of cases was 52, and the case-mortality was 4·6 per cent. as compared with 11·5 in the previous year. The greatest number of cases in one month was 17—in October.

*Rhondda*.—There occurred 20 deaths, giving a mortality-rate of 0·16. During the first half of the year, the District was exceptionally free from the disease. In August and the three succeeding months, however, the Typhoid Fever became more prevalent, and in “several instances, especially at Treallaw and Edmundstown, evidence points to polluted water as the probable cause of the disease. . . .”

*Gelligaer and Rhigos*.—15 cases occurred in the Pontlottyn Ward, nearly all at Butetown, where cases occurred at intervals during the year ; they are attributed to the general insanitary state of the place.

*Llandilo-Talybont Division*.—“ 34 cases were notified during the year. Of these, 5 showed a clear history of infection contracted in other Districts. The other 29 cases in Gorseinon, Loughor, and Penllergaer, were chiefly due to infection spread by ambulatory cases, as the ambulatory and abortive types were the most common. The three fatal cases (one in Penllergaer and two in Loughor) proved fatal in a few days after coming under medical observation, and it was quite evident from their state when first seen that the early stage of the disease must have been so slight as to have been overlooked. The history of the outbreak is a most interesting one, but as most of the cases occurred during the first part of 1907, they need not be referred to here in detail. . . .”

In addition to the provision of pure water supplies, milk, and other articles of food, the importance of which the various District Councils are alive to, the remedial measures to be taken for the prevention of Typhoid Fever are—

- (1) The adoption of the water carriage system, where possible, for the disposal of excrement, etc.
- (2) The paving of back yards, with a view to prevent the contamination of the soil.
- (3) Public scavenging.
- (4) The thorough disinfection of the excreta, soiled linen, bedding, etc.
- (5) The more effectual control of the shell-fish trade.

#### PUERPERAL FEVER.

The number notified to have suffered from this disease was 78, and of these 33 proved fatal, as compared with 68 cases and 35 deaths in 1905. This is equivalent to a case-mortality of 42·32, and a death-rate of 0·04 per 1,000 population, or 1·39 per 1,000 births.

TABLE XII.

| PUPERAL FEVER                   | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. | 1901. | 1902. | 1903. | 1904. | 1905. | 1906. |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Cases .. .. .                   | 92    | 76    | 68    | 81    | 63    | 100   | 87    | 79    | 123   | 122   | 88    | 96    | 68    | 78    |
| Deaths .. .. .                  | 67    | 41    | 38    | 47    | 34    | 30    | 33    | 38    | 67    | 53    | 35    | 29    | 35    | 33    |
| Case-mortality per cent         | 72·8  | 59·9  | 55·8  | 58·0  | 46·5  | 33·3  | 17·9  | 48·1  | 54·4  | 43·4  | 39·7  | 30·20 | 51·47 | 42·32 |
| Death-rate per 1,000 population | 0·13  | 0·08  | 0·07  | 0·08  | 0·06  | 0·05  | 0·05  | 0·06  | 0·11  | 0·08  | 0·05  | 0·04  | 0·05  | 0·04  |
| Deaths per 1,000 Births         | 3·34  | 2·25  | 1·87  | 2·31  | 1·67  | 1·45  | 1·66  | 1·80  | 3·04  | 2·27  | 1·50  | 1·21  | 1·45  | 1·39  |

Detailed remarks on this disease are given in my Annual Report for 1897, to which I would refer you.

## DIARRHŒA.

Diarrhœa caused 683 deaths, which is equivalent to a death-rate of 0·99. This excessive mortality was probably accounted for partly, by the warm and dry weather experienced during the third quarter of the year. In the previous year the number of deaths was 536, which is equivalent to a death-rate of 0·80

The Diarrhœal rate for England and Wales was 0·87; for the 76 great towns, 1·16; for the 142 smaller towns, 0·94; and for England and Wales, *less* the 218 towns, 0·52.

In the following Table are given the Diarrhœal death-rates for the County and for England and Wales:—

TABLE XIII.

| DIARRHŒA.                    | 1893.       | 1894.       | 1895.       | 1896.       | 1897.       | 1898.       | 1899.       | 1900.       | 1901.       | 1902.       | 1903.       | 1904.       | 1905.       | 1906.       |
|------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Urban Districts ..           | 1·02        | 0·45        | 0·95        | 1·08        | 0·81        | 0·95        | 1·49        | 0·37        | 1·30        | 0·49        | 0·57        | 1·12        | 1·00        | 1·19        |
| Rural .. .. .                | 0·69        | 0·08        | 0·34        | 0·42        | 0·26        | 0·37        | 0·61        | 0·42        | 0·43        | 0·22        | 0·23        | 0·28        | 0·23        | 0·43        |
| <b>Administrative County</b> | <b>1·31</b> | <b>0·35</b> | <b>0·78</b> | <b>0·87</b> | <b>0·66</b> | <b>0·77</b> | <b>1·25</b> | <b>0·38</b> | <b>1·04</b> | <b>0·42</b> | <b>0·48</b> | <b>0·80</b> | <b>0·80</b> | <b>0·99</b> |
| England and Wales ..         | 0·95        | 0·34        | 0·87        | 0·54        | 0·85        | 0·91        | 0·93        | 0·71        | 0·91        | 0·38        | 0·50        | 0·69        | 0·59        | 0·87        |

The highest death-rate was attained in Merthyr (1·7); Rhondda (1·61); Maesteg (1·60); Neath Borough (1·6); Pontypridd (1·46); and Ogmore and Garw (1·22).

No deaths occurred from this disease at Cowbridge Borough, Oystermouth, Porthcawl, Cowbridge Rural, Gower, Pontardawe West, and Llangyfelach Division.

Diarrhœa is very variable as regards its prevalence, and is intimately associated with the temperature during the summer months, and the condition of articles of food and drink resulting therefrom. It is essentially an infantile affection, and apart from *climatic conditions, insanitary surroundings, overcrowding,*

*injudicious feeding* (with indigestible, unwholesome and adulterated food and *maternal neglect*, are the most important predisposing causes of this disease, which is so fatal amongst infants. More attention should be paid to the nursing, rearing, and feeding of infants, and especially to the provision of pure and unadulterated milk supplies.

The prevention of Diarrhœa consists of practically the same measures as the prevention of Enteric Fever, viz. :—The provision of suitable food, the disinfection of stools, and the prevention of the pollution of the soil by the provision of properly paved and cleansed back areas and courts.

### ERYSIPELAS.

528 cases of Erysipelas were notified, and to it are ascribed 8 deaths, as compared with 576 cases and 19 deaths in 1905. This is equivalent to a death-rate of 0·010.

Erysipelas is generally associated with insanitary surroundings, and any premises in which it appears should be carefully examined.

The notification of this disease is important in connection with nurses, midwives, and others coming in contact with parturient women and surgical cases.

### PHTHISIS.

The deaths attributed to Phthisis numbered 574—410 in Urban, and 164 in Rural Districts. This is equivalent to a death-rate of 0·83.

The highest rates are recorded from Neath Borough (2·13); Porthcawl (1·66); Bridgend (1·38); Neath Rural (1·3); and Aberavon (1·25).

In the following Table are given the number of cases and death-rates for the years 1893-1906 :—

TABLE XIV.

| ADMINISTRATIVE COUNTY. | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. | 1901. | 1902. | 1903. | 1904. | 1905. | 1906. |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Deaths .. ..           | 700   | 626   | 610   | 603   | 712   | 688   | 531   | 813   | 604   | 588   | 511   | 629   | 613   | 574   |
| Death-rate .. ..       | 1·42  | 1·24  | 1·17  | 1·15  | 1·30  | 1·23  | 0·92  | 1·38  | 1·00  | 0·95  | 0·80  | 0·96  | 0·91  | 0·83  |

A special report on “ The Prevention and Restriction of Tuberculosis ” was presented in 1903.

The facilities offered by the Cardiff and County Public Health Laboratory for the examination of specimens of sputum should be more fully utilised, as the successful treatment of the disease depends chiefly upon its early diagnosis. 341 specimens of sputum from the whole County were examined at the Laboratory, as compared with 369 in 1905.

### OTHER TUBERCULAR DISEASES.

Other Tubercular diseases caused 251 deaths, which is equivalent to a death-rate of 0·63.



## CANCER, MALIGNANT DISEASE.

402 deaths were attributed to Cancer and Malignant Disease. Only a few of the reports make any special reference to these diseases.

TABLE XV.

## DEATH-RATES CLASSIFIED ACCORDING TO DISEASE AND LOCALITY.

| DISTRICTS.                            | Small Pox. | Measles. | Scarlet Fever. | Diphtheria and Croup. | Whooping Cough. | Enteric Fever. | Puerperal Fever. | Erysipelas. | Diarrhoea. | Phthisis. | Respiratory Diseases. | Heart Diseases. | Injuries. |
|---------------------------------------|------------|----------|----------------|-----------------------|-----------------|----------------|------------------|-------------|------------|-----------|-----------------------|-----------------|-----------|
| URBAN.                                |            |          |                |                       |                 |                |                  |             |            |           |                       |                 |           |
| Aberavon .. ..                        | ..         | ..       | ..             | ..                    | 0·62            | 0·25           | ..               | ..          | 0·88       | 1·25      | 2·89                  | 1·13            | 0·37      |
| Aberdare .. ..                        | ..         | 0·06     | 0·22           | 0·20                  | 0·51            | 0·10           | 0·08             | 0·02        | 0·94       | 0·41      | 4·06                  | ..              | ..        |
| Barry .. ..                           | ..         | 0·03     | ..             | 0·12                  | 0·03            | 0·09           | 0·09             | ..          | 0·5        | 1·1       | 1·59                  | 1·47            | 0·63      |
| Bridgend .. ..                        | ..         | ..       | ..             | 0·13                  | ..              | ..             | 0·13             | ..          | 0·82       | 1·38      | 1·51                  | 1·38            | 0·55      |
| Briton Ferry .. ..                    | ..         | ..       | ..             | 0·37                  | 0·12            | 0·12           | ..               | ..          | 0·87       | 1·00      | 3·12                  | 0·87            | 0·87      |
| Caerphilly .. ..                      | ..         | ..       | 0·13           | 0·48                  | 0·04            | ..             | 0·04             | ..          | 0·13       | 0·4       | 1·9                   | 1·33            | 0·53      |
| Cowbridge .. ..                       | ..         | ..       | ..             | ..                    | ..              | ..             | ..               | ..          | ..         | 0·83      | 4·1                   | 3·32            | ..        |
| Glyncorwg .. ..                       | ..         | ..       | ..             | ..                    | 0·26            | 0·13           | ..               | ..          | 0·4        | ..        | 2·53                  | 0·8             | 0·5       |
| Maesteg .. ..                         | ..         | 0·09     | ..             | 0·13                  | 0·57            | 0·09           | 0·04             | ..          | 1·60       | 0·62      | 3·3                   | 0·97            | 0·71      |
| Margam .. ..                          | ..         | 0·38     | 0·09           | ..                    | 0·85            | ..             | 0·09             | 0·09        | 0·09       | 0·85      | 1·6                   | 1·14            | 0·38      |
| Merthyr .. ..                         | ..         | ..       | 0·14           | 0·41                  | 0·14            | 0·14           | 0·04             | 0·02        | 1·7        | 0·9       | 3·8                   | 1·46            | 0·66      |
| Mountain Ash .. ..                    | ..         | 0·14     | ..             | 0·29                  | 0·16            | 0·12           | 0·02             | ..          | 0·70       | 0·84      | 1·9                   | 1·09            | 0·94      |
| Neath .. ..                           | ..         | 0·06     | 0·06           | 0·12                  | 0·06            | ..             | ..               | ..          | 1·6        | 2·13      | 2·53                  | 1·46            | 0·6       |
| Ogmore and Garw .. ..                 | ..         | ..       | 0·04           | 0·17                  | 0·21            | 0·04           | 0·04             | 0·04        | 1·22       | 0·54      | 3·4                   | 0·96            | 0·61      |
| Oystermouth .. ..                     | ..         | ..       | ..             | ..                    | ..              | ..             | ..               | ..          | ..         | 1·04      | 0·83                  | 1·04            | 0·62      |
| Penarth .. ..                         | ..         | ..       | 0·13           | 0·19                  | 0·13            | ..             | ..               | 0·06        | 0·32       | 0·9       | 1·17                  | 0·84            | 0·26      |
| Pontypridd .. ..                      | ..         | 0·05     | 0·02           | 0·05                  | 0·08            | 0·08           | 0·02             | ..          | 1·46       | 0·97      | 2·1                   | 0·92            | 0·46      |
| Porthcawl .. ..                       | ..         | ..       | ..             | ..                    | ..              | ..             | ..               | ..          | ..         | 1·66      | 0·4                   | 2·91            | ..        |
| Rhondda .. ..                         | ..         | 0·19     | 0·7            | 0·19                  | 0·21            | 0·16           | 0·06             | 0·01        | 1·61       | 0·64      | 3·5                   | 0·84            | 0·93      |
| RURAL.                                |            |          |                |                       |                 |                |                  |             |            |           |                       |                 |           |
| Cowbridge .. ..                       | ..         | ..       | ..             | ..                    | 0·12            | ..             | ..               | ..          | ..         | 1·0       | 1·8                   | 2·17            | 0·64      |
| Gelligaer and Rhigos .. ..            | ..         | 0·56     | 0·07           | 0·22                  | 0·59            | 0·14           | 0·07             | ..          | 1·08       | 0·59      | 3·7                   | 0·85            | 0·11      |
| Gower .. ..                           | ..         | ..       | ..             | ..                    | 0·27            | ..             | ..               | ..          | ..         | 0·2       | 2·7                   | 1·65            | 0·82      |
| Llandaff and Dinas Powis .. ..        | ..         | 0·07     | 0·07           | 0·11                  | 0·19            | 0·07           | ..               | ..          | 0·69       | 0·92      | 1·89                  | 1·23            | 0·50      |
| Llantrisant and Llantwit Fardre .. .. | ..         | ..       | ..             | 0·41                  | 0·41            | 0·08           | 0·08             | ..          | 0·08       | 0·66      | 2·8                   | 1·81            | 1·40      |
| Neath .. ..                           | ..         | 0·39     | 0·10           | 0·20                  | 0·10            | 0·07           | 0·03             | ..          | 0·49       | 1·3       | 3·06                  | 1·42            | 0·7       |
| Penybont .. ..                        | ..         | ..       | 0·16           | 0·31                  | 0·24            | 0·16           | 0·12             | ..          | 0·18       | 0·68      | 2·9                   | 1·56            | 0·93      |
| Pontardawe :—                         |            |          |                |                       |                 |                |                  |             |            |           |                       |                 |           |
| East Division .. ..                   | ..         | 0·09     | ..             | 0·09                  | ..              | ..             | ..               | ..          | 0·37       | 0·74      | 2·9                   | 1·86            | 0·65      |
| West .. ..                            | ..         | ..       | ..             | 0·37                  | 0·22            | ..             | 0·07             | ..          | ..         | 0·9       | 3·2                   | 1·21            | 0·45      |
| Swansea Rural :—                      |            |          |                |                       |                 |                |                  |             |            |           |                       |                 |           |
| Llangyfelach Division .. ..           | ..         | 0·40     | 0·04           | 0·26                  | 0·04            | 0·04           | ..               | ..          | ..         | 0·54      | 1·4                   | 0·98            | 0·35      |
| Llandilo-Talybont Division .. ..      | ..         | 0·09     | 0·18           | 0·09                  | 0·45            | 0·27           | 0·09             | ..          | 0·81       | 0·98      | 1·74                  | 2·18            | 1·45      |

## NOTIFICATION OF INFECTIOUS DISEASES.

The number of notifications received included *Small Pox* 2; *Scarlet Fever* 2,081; *Diphtheria and Membranous Croup* 1,082; *Enteric Fever* 526; *Continued Fever* 4; *Relapsing Fever* 1; *Puerperal Fever* 68; and *Erysipelas* 508; making a total of 4,272 cases. Of these, 364 or 8·5 per cent. proved fatal.

The number of notifications received furnishes a much better criterion for judging the prevalence of the various diseases than do the death returns; the two, however, enable one to ascertain the prevalence and type of the disease.

Through the courtesy of the Medical Officers of Health, I have received weekly, from every District, a return showing the number of cases of Infectious Diseases notified, and have published the same regularly by the middle of the following week, a copy being sent to each of the above, and also to the Medical Officers of Health of the local County Boroughs, the Local Government Board, and others.

In the following Tables are given the number of cases of Infectious Disease notified annually since 1893, together with the number of cases notified during each week of the year under review :—

TABLE XVI.

In the following Table is given the number of cases of Infectious Disease notified during the period 1893-1906 :—

| DISEASES            | Year.<br>1893. | Year<br>1894. | Year<br>1895. | Year<br>1896. | Year<br>1897. | Year<br>1898. | Year<br>1899. | Year<br>1900. | Year<br>1901. | Year<br>1902. | Year<br>1903. | Year<br>1904. | Year<br>1905. | Year<br>1906. |
|---------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Small Pox .. ..     | 48             | 37            | 5             | 69            | 7             | 4             | 5             | 4             | 4             | 172           | 51            | 19            | 21            | 2             |
| Cholera .. ..       | ..             | ..            | ..            | ..            | ..            | ..            | ..            | ..            | ..            | ..            | ..            | ..            | ..            | ..            |
| Scarlet Fever .. .. | 2,378          | 1,726         | 2,760         | 3,781         | 3,029         | 1,280         | 2,046         | 4,348         | 6,826         | 4,360         | 4,484         | 4,445         | 3,039         | 2,081         |
| Diphtheria .. ..    | 242            | 159           | 273           | 452           | 817           | 2,060         | 5,074         | 3,440         | 3,528         | 2,403         | 1,423         | 1,259         | 1,379         | 1,017         |
| Membranous Croup .. | 60             | 56            | 112           | 148           | 108           | 133           | 49            | 143           | 132           | 105           | 125           | 71            | 75            | 65            |
| Erysipelas .. ..    | 348            | 377           | 439           | 437           | 530           | 478           | 503           | 457           | 814           | 720           | 555           | 494           | 576           | 508           |
| Typhus .. ..        | ..             | 5             | ..            | ..            | ..            | ..            | 1             | 2             | ..            | ..            | 2             | ..            | ..            | ..            |
| Enteric .. ..       | 825            | 703           | 748           | 665           | 652           | 840           | 1,487         | 1,150         | 913           | 682           | 952           | 809           | 615           | 526           |
| Continued Fever ..  | 17             | 21            | 20            | 28            | 3             | 30            | 1             | 16            | 19            | 15            | 19            | 6             | 9             | 4             |
| Relapsing Fever ..  | ..             | ..            | ..            | ..            | ..            | ..            | ..            | ..            | ..            | ..            | 4             | ..            | 1             | 1             |
| Puerperal Fever ..  | 92             | 76            | 68            | 81            | 63            | 100           | 88            | 79            | 123           | 117           | 79            | 96            | 68            | 68            |

The above figures are useful for the purposes of comparison. There has been a great increase in the number of cases of Scarlet Fever notified since 1898, whereas there has been a gradual diminution in the incidence of Diphtheria.

TABLE XVII.

In the following Table is given the number of cases notified during each week of the year 1906:—

| DISEASES.        | JANUARY. |     |     |     | FEBRUARY. |     |     |     | MARCH. |     |     |     |     | APRIL. |     |     |     | MAY. |     |     |     | JUNE. |    |     |     |     |    |
|------------------|----------|-----|-----|-----|-----------|-----|-----|-----|--------|-----|-----|-----|-----|--------|-----|-----|-----|------|-----|-----|-----|-------|----|-----|-----|-----|----|
|                  | 6.       | 13. | 20. | 27. | 3.        | 10. | 17. | 24. | 3      | 10. | 17. | 24. | 31. | 7.     | 14. | 21. | 28. | 5.   | 12. | 19. | 26. | 2.    | 9. | 16. | 23. | 30. |    |
| Small Pox ..     | ..       | ..  | ..  | ..  | ..        | ..  | ..  | ..  | ..     | ..  | ..  | ..  | ..  | ..     | ..  | ..  | ..  | ..   | ..  | ..  | ..  | ..    | .. | ..  | ..  | ..  |    |
| Cholera ..       | ..       | ..  | ..  | ..  | ..        | ..  | ..  | ..  | ..     | ..  | ..  | ..  | ..  | ..     | ..  | ..  | ..  | ..   | ..  | ..  | ..  | ..    | .. | ..  | ..  | ..  |    |
| Scarlet Fever .. | ..       | 40  | 49  | 39  | 45        | 33  | 39  | 30  | 34     | 51  | 39  | 31  | 28  | 27     | 26  | 42  | 57  | 34   | 36  | 36  | 30  | 40    | 29 | 25  | 31  | 31  | 30 |
| Diphtheria ..    | ..       | 16  | 30  | 19  | 18        | 27  | 22  | 29  | 19     | 30  | 29  | 24  | 23  | 15     | 20  | 21  | 21  | 21   | 24  | 12  | 19  | 22    | 18 | 8   | 6   | 28  | 1  |
| Membranous Croup | ..       | 3   | 2   | ..  | 1         | 1   | 2   | 3   | 2      | ..  | 1   | 3   | 2   | ..     | 3   | 2   | 1   | 1    | 2   | 2   | 2   | 1     | .. | 3   | 1   | 1   | .. |
| Erysipelas ..    | ..       | 12  | 8   | 5   | 11        | 13  | 8   | 12  | 15     | 16  | 10  | 14  | 16  | 6      | 10  | 11  | 10  | 15   | 9   | 9   | 9   | 6     | 10 | 5   | 9   | 9   | .. |
| Typhus ..        | ..       | ..  | ..  | ..  | ..        | ..  | ..  | ..  | ..     | ..  | ..  | ..  | ..  | ..     | ..  | ..  | ..  | ..   | ..  | ..  | ..  | ..    | .. | ..  | ..  | ..  | .. |
| Enteric ..       | ..       | 7   | 10  | 7   | 12        | 9   | 4   | 4   | 7      | 11  | 13  | 3   | 11  | 7      | 4   | 6   | 6   | 11   | 6   | 3   | 6   | 9     | 8  | 5   | 4   | 11  | .. |
| Continued Fever  | ..       | ..  | ..  | ..  | ..        | ..  | ..  | ..  | ..     | 1   | ..  | ..  | ..  | ..     | ..  | ..  | ..  | ..   | ..  | ..  | ..  | ..    | .. | ..  | ..  | ..  | .. |
| Relapsing Fever  | ..       | ..  | ..  | ..  | ..        | ..  | ..  | ..  | ..     | ..  | ..  | ..  | ..  | ..     | ..  | ..  | ..  | ..   | ..  | ..  | ..  | ..    | .. | ..  | ..  | ..  | .. |
| Puerperal Fever  | ..       | 1   | 2   | ..  | 1         | 2   | 1   | 1   | ..     | ..  | 1   | 1   | 2   | 4      | 3   | ..  | 1   | 1    | 2   | 1   | ..  | 2     | 2  | 2   | ..  | 2   | .. |

| DISEASES.        | JULY. |     |     |     | AUGUST. |     |     |     | SEPTEMBER. |    |     |     |     | OCTOBER. |     |     |     | NOVEMBER. |     |     |     | DECEMBER. |    |     |     |     |    |
|------------------|-------|-----|-----|-----|---------|-----|-----|-----|------------|----|-----|-----|-----|----------|-----|-----|-----|-----------|-----|-----|-----|-----------|----|-----|-----|-----|----|
|                  | 7.    | 14. | 21. | 28. | 4.      | 11. | 18. | 25. | 1          | 8. | 15. | 22. | 29. | 6.       | 13. | 20. | 27. | 3.        | 10. | 17. | 24. | 1         | 8. | 15. | 22. | 29. |    |
| Small Pox ..     | ..    | ..  | ..  | ..  | 1       | ..  | ..  | ..  | ..         | .. | ..  | ..  | ..  | ..       | ..  | ..  | ..  | ..        | ..  | ..  | ..  | ..        | .. | ..  | ..  | ..  |    |
| Cholera ..       | ..    | ..  | ..  | ..  | ..      | ..  | ..  | ..  | ..         | .. | ..  | ..  | ..  | ..       | ..  | ..  | ..  | ..        | ..  | ..  | ..  | ..        | .. | ..  | ..  | ..  |    |
| Scarlet Fever .. | ..    | 34  | 43  | 52  | 44      | 37  | 19  | 34  | 33         | 22 | 29  | 26  | 39  | 40       | 45  | 41  | 47  | 77        | 66  | 90  | 90  | 66        | 51 | 43  | 25  | 28  | 2  |
| Diphtheria ..    | ..    | 12  | 16  | 20  | 20      | 13  | 10  | 7   | 9          | 13 | 14  | 24  | 20  | 16       | 31  | 25  | 21  | 32        | 22  | 20  | 22  | 23        | 20 | 14  | 14  | 19  | 2  |
| Membranous Croup | ..    | 1   | 1   | ..  | 1       | 2   | ..  | ..  | ..         | .. | ..  | 2   | ..  | 3        | 1   | 1   | ..  | ..        | ..  | ..  | 5   | 3         | 2  | ..  | 1   | ..  |    |
| Erysipelas ..    | ..    | 8   | 12  | 8   | 4       | 6   | 4   | 9   | 6          | 11 | 7   | 8   | 10  | 12       | 7   | 14  | 8   | 9         | 13  | 8   | 7   | 12        | 11 | 10  | 14  | 13  | 1  |
| Typhus ..        | ..    | ..  | ..  | ..  | ..      | ..  | ..  | ..  | ..         | .. | ..  | ..  | ..  | ..       | ..  | ..  | ..  | ..        | ..  | ..  | ..  | ..        | .. | ..  | ..  | ..  |    |
| Enteric ..       | ..    | 9   | 10  | 8   | 10      | 16  | 6   | 8   | 9          | 11 | 21  | 23  | 18  | 18       | 14  | 19  | 14  | 21        | 21  | 13  | 10  | 8         | 4  | 13  | 11  | 9   | 1  |
| Continued Fever  | ..    | ..  | ..  | ..  | ..      | ..  | 1   | ..  | 1          | .. | ..  | ..  | ..  | ..       | ..  | ..  | ..  | ..        | ..  | ..  | ..  | ..        | .. | ..  | ..  | ..  |    |
| Relapsing Fever  | ..    | ..  | ..  | ..  | ..      | ..  | ..  | ..  | ..         | .. | ..  | 1   | ..  | ..       | ..  | 1   | ..  | ..        | ..  | ..  | ..  | ..        | .. | ..  | ..  | ..  |    |
| Puerperal Fever  | ..    | 1   | 1   | 1   | 1       | 1   | 1   | 2   | 3          | 1  | ..  | 1   | ..  | 1        | 5   | 3   | 1   | ..        | ..  | 1   | 2   | 2         | 2  | 1   | 1   | 1   | .. |



## ADMINISTRATION.

### PROVISION OF ISOLATION HOSPITALS BY LOCAL AUTHORITIES.

During 1902 the Local Government Board issued a circular to the various County Councils throughout the Country, drawing attention to the Isolation Hospitals Act, 1901 (1 Edw. VII., cap. 8), and pointing out the changes in the existing law that it introduced. These changes may be enumerated under :—

- (1) Transfer by Local Authorities of Hospitals for use as Isolation Hospitals.
- (2) Contribution by County Council to Hospitals provided by Local Authority.
- (3) Power of Hospital Committees under the Isolation Hospitals Act, 1893, to contract for Hospital accommodation.
- (4) Rate of interest on money repayable by County Council.
- (5) Appeals to Local Government Board as to formation of Hospital Districts.
- (6) Local Authorities in Rural Districts.

### ISOLATION HOSPITALS.

#### I.—INFECTIOUS DISEASES HOSPITALS.

*When the County Council began (in 1895) to enforce the provisions of the "Isolation Hospitals Act, 1893," the Hospitals then existing were :—*

- (1) The Aberdare Hospital (temporary structure)—28 beds—still in use.
- (2) The Barry Small Pox Hospital (temporary structure)—now dismantled.
- (3) The Bridgend Small Pox Hospital (temporary structure)—8 beds—still in use.
- (4) Maesteg—a dwelling house—abandoned some years ago.
- (5) The Merthyr Hospitals (1) one in Brecon Road, a permanent building, and (2) a temporary building at Pant, Dowlais.
- (6) The Mountain Ash Hospital, built in consequence of an epidemic of Enteric Fever in 1887.
- (7) Neath Borough Hospital, old dwelling houses altered for the purpose, but seldom used, situated in the centre of the town—condemned by the Medical Officer of Health.
- (8) Rhondda Hospital, a small permanent building with accommodation for 8 beds.
- (9) Gelligaer and Rhigos Hospital at Penybanc, four old cottages altered for the purpose.
- (10) Neath Rural Hospital, a temporary building with accommodation for 12 beds.

Since the Isolation Hospitals Act has been enforced, fourteen Hospitals have been built, two are in course of construction, and three others are in contemplation.

A very considerable progress has been made in the matter of Isolation Hospitals, and below is given a synopsis showing the *present* position of the question of Isolation Hospitals in the County.

(a) *The following Hospitals have all been completed and are in use, except Nos. 13, 14, 16, and 17, and these are almost ready for the reception of patients :—*

- (1) The Barry Hospital—18 beds.
- (2) The Margam Hospital—24 beds.
- (3) The Briton Ferry Hospital (temporary)—12 beds.
- (4) The Maesteg Hospital—16 beds.
- (5) The Pontardawe Hospital—12 beds.
- \* (6) The Rhondda Hospital—32 beds ; and the old building—8 beds—40 beds in all.
- (7) The Glynorwg Hospital (temporary)—8 beds.
- (8) The Llandaff and Dinas Powis (temporary)—12 beds.
- (9) The Swansea Rural (temporary)—24 beds. Administrative Block new and of a permanent character.
- (10) The Penarth Hospital—18 beds.
- (11) The Pontypridd Hospital—20 beds.
- (12) The Llantrisant and Llantwit Fardre Hospital—18 beds.
- (13) The Bridgend Joint Hospital—18 beds.
- (14) The Ogmore and Garw Hospital—18 beds.
- (15) The Merthyr Borough Hospital—32 beds.
- (16) The Llandaff and Dinas Powis Hospital—24 beds.
- (17) The Caerphilly Hospital—20 beds.

(b) *A site had been fixed upon some years ago for the following Hospital, and the amended plans were submitted to the Local Government Board, who refused consent to the site acquired.*

The Gelligaer Hospital—18 beds.

(c) *Oystermouth.*—This District was some years ago constituted a Hospital District.

(d) *Gower.*—This Rural District having declined to join Oystermouth, or provide a Hospital for their own District, a compulsory Order was made against them by the County Council. The District Council appealed against the Order. This appeal was heard by one of the Local Government Board's Medical Inspectors on the 17th March, 1904. The Order was supported by the Board with the recommendation that Gower and Oystermouth be constituted a Joint Hospital District. Eventually the two District Councils concerned came to an agreement to contribute, in equal shares, towards the proposed Hospital, and the Oystermouth Hospital Committee has applied to the County Council to vary their Order so as to bring Gower within the area, and thus create a Joint Hospital District. This arrangement has been acceded to. The Joint Hospital Committee are endeavouring to fix upon a suitable site, but have not yet succeeded, owing to the great opposition evinced by the landowners.

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\* Additional Pavilions, with accommodation for 16 and 10 beds respectively, are in course of construction, the latter with a Discharging Block attached. All the above Hospitals, except that for Glynorwg, are provided with an efficient Disinfecting Apparatus.

- (e) *The proposed Joint Hospital of Briton Ferry, Neath Rural, Neath Borough, and Aberavon Borough.*

The Local Government Board has decided not to include the Borough of Aberavon in the proposed Joint District.

A Joint Hospital for Neath Rural and Briton Ferry Urban District has been recommended, and the matter is still under consideration.

- (f) *Aberdare*.—For many years I have recommended that a new Isolation Hospital should be provided for *Aberdare*, and the District Council are now seeking a suitable site.

## II. SMALL POX HOSPITALS.

- (a) The following Small Pox Hospitals exist at present in the County, viz. :—

*Bridgend*.—A temporary building with accommodation for eight beds, and there is a steam disinfecting apparatus in connection with it.

The new Joint Hospital is nearly completed for the Districts which make up the Bridgend Union, excepting *Maesteg*, where a Hospital has been provided. When the Joint Hospital is ready the apparatus will be used there.

*Maesteg*.—A temporary building with accommodation for 12 beds. A disinfecting apparatus is about to be provided.

*Merthyr Tydfil*.—A temporary structure with accommodation for 18 beds.

*Neath Borough*.—Old dwellings altered for the purpose, but seldom used, situated in the centre of the town, with accommodation for eight beds. No disinfecting apparatus. Condemned by the Medical Officer of Health.

*Penarth*.—A temporary building with accommodation for eight beds. No disinfecting apparatus.

*Pontypridd*.—A temporary building with accommodation for eight beds, which has already been found inadequate and recently extended. A disinfecting apparatus has been provided.

*Gelligaer and Rhigos*.—Four old cottages, altered for the purpose, with accommodation for eight beds.

*Llantrisant and Llantwit Fardre*.—A temporary building with accommodation for eight beds. No disinfecting apparatus provided.

*Neath (Rural)*.—A temporary building with accommodation for 12 beds. A disinfecting apparatus provided.

*Pontardawe*.—A temporary building with accommodation for 12 beds.

*Caerphilly*.—A temporary building with accommodation for 16 beds. No disinfecting apparatus.

*Barry*.—A permanent building with accommodation for 24 beds, and equipped with the latest approved appliances. This Hospital will be available for the reception of patients from the Llandaff and Dinas Powis Rural District from within a radius of 10 miles.

(b) *The following Hospitals are in course of construction :—*

- (1) The Rhondda Hospital—a temporary building on permanent foundation with accommodation for 16 beds.
- (2) The Swansea Rural—a temporary building on permanent foundation with accommodation for 12 beds.

The Districts of Aberdare and Mountain Ash are still unprovided with Small Pox Hospitals.

### DISINFECTION.

I have dealt somewhat fully with the importance of the efficient disinfection of houses, articles of bedding, clothing, persons, &c., in previous Annual Reports, to which I would refer you.

The best disinfectant for all purposes, where practicable, appears to be heat in combination with moisture. Where sufficient heat cannot be applied, certain chemicals are used.

Now that notification of infectious disease is compulsory throughout the County, it is highly important that our provision for isolation and disinfection should be as efficient as possible, for they are complementary to each other.

*Infected persons and things* require to be disinfected, and disinfection should include :—

- (1) The disinfection of persons.
- (2) The disinfection of bedding, clothing, &c.
- (3) The disinfection of rooms, and
- (4) The disinfection of discharges.

No Isolation Hospitals are complete unless discharging rooms are provided in connection with them, where patients can be finally disinfected before leaving, and where midwives, nurses, and others who have been in attendance or in contact with fever cases can be cleansed and disinfected, while their infected clothing is being passed through a disinfector, and their appliances sterilised.

The County Council does not consider any Infectious Diseases Hospital complete unless there is provided an approved disinfecting apparatus, and half the cost of the Establishment charges is not paid unless this is the case. A few of the temporary Small Pox Hospitals have not yet been provided with disinfecting apparatus, but this is contemplated.

In 1893 there were only *two* disinfecting machines in the Administrative County, and these were Fraser's Sulphur Machines—one in Rhondda, and one in Neath Borough.

### PRESERVATIVES AND COLOURING MATTERS IN FOOD.

The Report of the Departmental Committee appointed (in July, 1899), to inquire into the use of preservatives and colouring matters in the preservation and colouring of food, together with Minutes of Evidence, Appendices, and Index, was issued some years ago, when the following recommendations were made :—

- (a) That the use of formaldehyde or formalin, or preparations thereof, in foods, or drinks, be absolutely prohibited, and that salicylic acid be not used in a greater proportion than one grain per pint in liquid food, and one grain per pound in solid food. Its presence in all cases to be declared.



- (b) That the use of *any preservative* or colouring matter whatever in milk offered for sale in the United Kingdom be constituted *an offence* under the Sale of Food and Drugs Acts.
- (c) That the only preservatives which it shall be lawful to use in cream be boric acid or mixtures of boric acid and borax, and in amount not exceeding 0·25 per cent., expressed as boric acid. The amount of such preservative to be notified by a label upon the vessel.
- (d) That the only preservative permitted to be used in butter and margarine be boric acid or mixtures of boric acid and borax, to be used in proportions not exceeding 0·5 per cent., expressed as boric acid.
- (e) That in the case of all dietetic preparations intended for the use of invalids or infants, chemical preservatives of all kinds be prohibited.
- (f) That the use of copper salts in the so-called greening of preserved foods be prohibited.
- (g) That means be provided, either by the establishment of a separate Court of Reference or by the imposition of more direct obligation on the Local Government Board, to exercise supervision over the use of preservatives and colouring matters in food, and to prepare schedules of such as may be considered inimical to the public health.

Although it is true that the above recommendations have not become law, yet it is encouraging to find that they are practically the same as those adopted and enforced as far as possible by the Glamorgan County Council as far back as 1896.

It is greatly to be hoped that legislative effect will soon be given to these recommendations, so that the work of supervision under the Sale of Food and Drugs Acts may be made more effectual, and prosecutions less uncertain in their results.

The fact should not be lost sight of that the danger of preservatives lies not so much in the actual poisonous effects of the drugs used as in the fact that where preservatives are used it is probable that cleanliness is neglected.

With regard to recommendation (b) “that the use of any preservative . . . whatever in milk offered for sale in the United Kingdom be constituted an offence under the Sale of Food and Drugs Acts,” it is of the utmost importance that great weight should be attached to it.

*Preservatives in Milk.*—In July, 1906, the Local Government Board issued a circular calling attention to the desirability of taking action under the Food and Drugs Acts, when samples of milk are found to contain preservatives. They further suggest that the Local Authority should notify milk traders of their intention to take proceedings when boracic acid, borax, formalin, or any other drug has been found in milk.

† It may here be stated that action as above recommended has been taken for the last ten years by the County Council, and that milk traders have, on several occasions, been notified of such procedure.

With regard to recommendation (g) “that means be provided” to exercise supervision over the use of preservatives and colouring matters in food, and to prepare schedules of such as may be considered inimical to the public health, it is satisfactory to note that the matter has been taken up lately by the Local Government Board, and that a new department has been established for this purpose, under the direction and superintendence of Dr. G. S. Buchanan, one of the Medical Inspectors of the Board. Among the aims and objects of the enquiries made by this Board are the following :—

*Inspector of Foods, &c., Department.*

The Department of the Inspector of Foods, &c., is a sub-department of the medical department. Its constitution was the outcome of recommendations which from time to time have been made by various Committees, including the Food Preservatives Committee, and by the Royal Commission on Arsenical Poisoning.

The duties of the Inspector are stated generally in the following extract from the reply given by the President (Mr. Gerald Balfour) to a question asked by Sir Cuthbert Quilter in the House of Commons on 8th August, 1905 :—

“ . . . . . to advise the Local Government Board as to the administration of the Sale of Food and Drugs Acts and other similar Acts ; to deal with matters relating to the purity and adulteration of food which are brought to the Board's notice by public analysts, medical officers of health, and others ; to obtain information upon special questions relating to the purity and adulteration of food and the use of deleterious substances therein ; and to make suitable enquiries and investigations for this purpose. . . . . ”

The following circular letter, having reference to Preservatives in Milk, was issued by the Local Government Board during the year :—

*Preservatives in Milk.*

LOCAL GOVERNMENT BOARD,

WHITEHALL, S.W.,

11th July, 1906.

SIR,

I am directed by the Local Government Board to request the attention of the Council to the subject of the addition of preservatives to milk.

A serious objection to the use of preservatives in milk has been pointed out in the report of the Departmental Committee on Preservatives and Colouring Matters in Food, who state that preservatives in milk “ may be relied on to protect those engaged ” in the milk traffic “ against the immediate results of neglect of scrupulous cleanliness. Under the influence of these preservatives milk may be exposed without sensible injury to conditions which otherwise would render it unsaleable. It may remain sweet to taste and smell and yet have incorporated disease germs of various kinds, whereof the activity may be suspended for a time by the action of the preservative, but may be resumed before the milk is digested.”

This Committee, after hearing evidence from milk traders, concluded that the addition of a preservative to milk is not necessary for the purposes of the milk trade, even in hot weather or where the supply of so large a place as London is concerned, and the Committee recommended that no preservatives should be added to milk.

In making this recommendation the Committee had special regard to evidence received as to two classes of preservative substances which, under various names, are frequently used as preservatives in milk, viz. (1) formalin (a 40 per cent. solution of formic aldehyde) and other preparations of formic aldehyde ; and (2) boron preservatives (boric acid, borax, or mixtures of boric acid and borax). The Committee

considered that the addition to milk of formalin or preparations of formalin, even when the amount which could be detected was minute, was objectionable, on account of the alterations effected by formalin in the character of certain of the constituents of milk and of its ability to interfere directly with digestive processes.

Although in the view of the Committee boron preservatives might reasonably be employed in the case of certain foods, within defined limits and subject to a declaration as to their presence and amount, the Committee recommended their exclusion from milk altogether ; partly for the reasons above indicated, and partly also in consideration of the immense importance of pure milk for the nutrition of infants, invalids, and convalescents, and of the comparatively large quantity of milk which may be taken, particularly by children, in comparison with the other foods in question. Moreover the Committee had evidence " pointing to an injurious effect of boracised milk upon the health of very young children."

Since the report of the Committee was made the Board have from time to time had before them further evidence on the subject, and this supports the conclusions of the Committee not only as to the objections to the use of preservatives on the ground of public health, but also as to the ability of milk traders to conduct their business without use of preservatives. Thus in certain boroughs in London and elsewhere in which milk samples are systematically tested for preservatives, the presence of preservatives in milk, at any time of the year, has been found to be exceptional ; and there is evidence to show that a very large number of milk vendors conduct their business without the use of these substances, even where the milk comes long distances by rail.

In some districts action under the Sale of Food and Drugs Acts has been frequently and successfully taken in order to bring about the disuse of preservatives in milk. Proceedings instituted against vendors of milk containing preservatives have usually been taken under Section 6 of the Sale of Food and Drugs Act, 1875. Conviction has followed, it being held that when the purchaser who asks for milk is supplied with milk plus a preservative he does not receive an article of the nature, substance, and quality demanded, and is prejudiced thereby.

The Board are of opinion that action under the Sale of Food and Drugs Acts in regard to preservatives in milk is desirable, and that this subject deserves attention from all authorities in England and Wales charged with the execution of these Acts.

In this connection the following suggestions are made for adoption by the Council where a similar procedure is not already followed :—

#### 1. *Information from public analysts.*

The Board suggest that public analysts should be requested

- (a) to record in their quarterly reports how many milk samples have been examined during the quarter with a view to ascertaining the presence of substances commonly in use as preservatives, and with what result ; and to draw the attention of the Council to instances where the use of preservatives in milk other than boron preservatives and formalin have come under notice ;
- (b) to report, on completion of analysis, the facts as to samples of milk which have been found to contain any added preservative.



2. *Administrative action where preservatives in milk are reported.*

The Board would suggest that the Council should notify to milk traders, by circular or otherwise, that action will be taken under the Sale of Food and Drugs Acts in instances where preservatives are reported in milk.

Subject to this being done, and to exceptional cases of the kind referred to under the heading numbered 3 below, the Board consider that when the presence of any added preservative is reported in a sample of milk taken in accordance with the provisions of the Sale of Food and Drugs Acts, the case should in ordinary circumstances be regarded as one for the institution of proceedings under those Acts.

3 *Declaration and Notices.*

The Board think it desirable to draw attention to cases in which the vendor of the milk, with the object of escaping liability under Section 6 of the Sale of Food and Drugs Act, 1875, declares to the purchaser by means of a notice, label or otherwise that he does not sell "milk" as such, or that its quality in regard to preservatives or other constituents is not guaranteed, or that it contains some added preservative.

The Board would suggest the desirability of frequent sampling in cases where "milk" is sold subject to declarations of the kind, with a view to ascertaining the condition of such milk in regard to preservatives.

The nature of the declaration made should in all cases be carefully recorded by the officer taking the sample, and should also be reported to the analyst when the sample is transmitted for analysis.

Where preservatives are reported in milk thus sold, the question will arise whether, in view of the nature and quantity of the preservatives added, it can be considered that the article has been rendered injurious to health, or that the purchaser has been prejudiced, to an extent which would justify the institution of proceedings under Section 3 or Section 6 of the Sale of Food and Drugs Act, 1875, notwithstanding the declaration made at the time of purchase.

This question is not without difficulty in view of the general objection to the employment of any preservatives in milk referred to above.

As regards formalin and boron preservatives, however, the Board are advised that the presence in milk of formalin to an amount which is ascertained by examination *within three days of collecting the sample* to exceed 1 part in 40,000 (1 part in 100,000 of formic aldehyde) raises a strong presumption that the article has been rendered injurious to health, and that the purchaser has been prejudiced, in the above sense; and also that similar presumption is raised where boron preservatives are present in milk to an amount exceeding 40 grains of boric acid per gallon.

It appears desirable that the addition of preservatives to skim milk, separated milk, and condensed milk, should be watched and controlled on similar lines.

Additional copies of this Circular are enclosed for transmission to the public analyst, and for use by executive officers under the Sale of Food and Drugs Acts. The Circular will be placed on sale and copies can then be obtained from Messrs. Wyman & Sons, Limited, 109, Fetter Lane, Fleet Street, London, E.C., either directly or through any bookseller.

I am, Sir,

Your obedient Servant,

S. B. PROVIS,

*Secretary.*

The following circular letter was recently received by me, and I have included it because of the great importance of the subject to which it refers :—

LOCAL GOVERNMENT BOARD,  
OFFICE OF INSPECTOR OF FOODS, &c.,  
50, PARLIAMENT STREET, S.W.,  
*June 19th, 1906.*

DEAR SIR,

I understand that in many administrative districts under the Sale of Food and Drugs Acts, samples of canned and preserved meats are being sent to the public analysts, in view of the recent events in the United States. I am anxious to utilize the opportunity to collect information as to use of preservatives and colouring matters in the foods in question. The presence of preservatives and colours in such foods as sausages, potted shrimps, &c., has of course often been ascertained, but the condition of certain other meat products, whether of home or foreign manufacture, in regard to preservatives is less clearly established ; and there seems to be special need for information as to presence or absence of preservatives in “canned,” tinned, or other foods which are hermetically sealed, in view of the indication that may be afforded that the meat was not fresh at the time of “canning.”

Accordingly I am inviting public analysts by letter to supply me with facts as to preservatives and colouring matters in any meat products which they have lately examined or may shortly be receiving.

In order that this information may be as complete as possible, I would be much obliged if you would kindly arrange to transmit to the analyst, in regard of samples lately collected, or shortly to be collected, full particulars as to each sample, namely :—

- (a) The description of the article purchased.
- (b) The nature of the receptacle, if any, in which it was purchased (hermetically sealed can or tin, covered pot, &c.).
- (c) The name of the manufacturer, brand of goods, or any other statements on the label.

(I may state here that it is not intended to make public use of any name, &c., by which individual firms can be identified.)

I would like to make a further suggestion regarding samples which may shortly be collected, namely, that in the case of meat products in cans, tins, &c., it would often be best that the whole sample as purchased should be sent to the analyst. This proceeding would prevent prosecutions being instituted in the case of such samples ; but on the other hand, the principle point in many of these cases, alike for local and central authority, is knowledge of the facts, before questions of prosecution are considered. By not dividing the sample, the analyst has more material for examination, he can if he desires make bacteriological examination to see if the contents of the can, &c., are sterile, and he is better acquainted with the nature of the material he is testing.

If in ordinary circumstances arrangements regarding sampling under the Sale of Food and Drugs Acts do not come under your direction, I would be glad if you would kindly forward this request to the officer or officers of the Council with whom such arrangements rest.

I am,

Yours faithfully,

G. S. BUCHANAN.

The Medical Officer of Health.

## REGULATIONS FOR THE SALE OF MILK.

The Board of Agriculture, in exercise of the powers conferred upon them by Section 4 of the Sale of Food and Drugs Act, 1899, have made the following Regulations, under date August 5th, 1901 :—

*Milk.*

- (1) Where a sample of milk (not being milk sold as skimmed, or separated, or condensed, milk) contains less than 3 per cent. of milk-fat, it shall be presumed for the purposes of the Sale of Food and Drugs Acts, 1875 to 1899, until the contrary is proved, that the milk is not genuine, by reason of the abstraction therefrom of milk-fat, or the addition thereto of water.
- (2) Where a sample of milk (not being milk sold as skimmed, or separated, or condensed, milk) contains less than 8·5 per cent. of milk-solids other than milk fat, it shall be presumed for the purposes of the Sale of Food and Drugs Acts, 1875 to 1899, until the contrary is proved, that the milk is not genuine, by reason of the abstraction therefrom of milk-solids other than milk-fat, or the addition thereto of water.

*Skimmed or Separated Milk.*

- (3) Where a sample of skimmed or separated milk (not being condensed milk) contains less than 9 per cent. of milk solids, it shall be presumed for the purposes of the Sale of Food and Drugs Acts, 1875 to 1899, until the contrary is proved, that the milk is not genuine, by reason of the abstraction therefrom of milk-solids other than milk-fat, or the addition thereto of water.

*Extent.*

- (4) These Regulations shall extend to Great Britain.

In the Regulations, the limits below which a presumption is raised that the milk is not genuine were necessarily fixed at figures lower than those which are usually afforded by genuine milk, in which the proportion of milk-fat and non-fatty solids very frequently exceeds the percentages specified above. It is therefore important that Local Authorities should keep steadily in view the possibility of the artificial reduction of the quality of natural milk to the official limits by the abstraction of cream, or the addition of separated milk, or of water, and arrangements should be made for the taking of samples and the submission of the same for analysis whenever the existence of malpractices of the kind is suspected. In this connection, it may be observed that the evidence given before the Milk Regulations Committee tended to show that the practice of fraudulently mixing separated milk with new milk has become increasingly prevalent, particularly in some of the larger towns.

Although the quality of genuine milk offered for sale will usually be well above the official limits of milk-fat and non-fatty solids, there may occasionally, and especially in certain seasons of the year, be cases in which a sample of genuine milk may fall below these limits. To meet cases of this kind it is suggested that in the absence of any special circumstances indicating that the case is a fraudulent one, the Local Authority might, in the first instance, call the vendor's attention to the analyst's report, and ask him whether he desires to offer any explanation, and if the explanation is one they are able to accept, they might, in the exercise of their discretion, refrain from the institution of proceedings, or withdraw any summons



which, in order to prevent the failure of proceedings by reason of the time limit imposed by the Act, it may have been necessary to take out. But it may be desirable that further samples of milk should be taken in such cases, in order that a satisfactory conclusion as to the character of the milk supplied may be arrived at.

### *Cream.*

The Milk Regulations Committee reported that the evidence submitted to them went to show that it was a common practice to add gelatin to cream for the purpose of giving it a fictitious appearance of richness or thickness. Local Authorities are urged to take steps to ascertain whether this form of adulteration is practised within their Districts, and if a public analyst reports the presence of gelatin or other similar substance in a sample of cream, the Local Authority concerned should consider whether the case is one in which proceedings might not with advantage be instituted under Section 6 of the Sale of Food and Drugs Act, 1875.

### *COLLECTION AND RETENTION OF SAMPLES.*

It is desirable that, so far as may be found practicable, there should be uniformity of procedure in collecting and retaining samples of milk procured under the provisions of the Sale of Food and Drugs Acts, and the following recommendations have been drawn up for the guidance of the local Officials employed in this work :—

- (1) The quantity to be purchased should not be less than one pint, except that it may be expedient to purchase only half-a-pint, in cases where there is reason to believe that the object of the purchase would be defeated if a greater quantity were demanded.
- (2) That the division of the sample, under Section 14 of the Act of 1875, as amended by Section 13 of the Act of 1899, should be made as equally as possible, so that the portion reserved by the purchaser may not be less than one-third of the whole.
- (3) The bottle used for each divided part should have a narrow neck, and be of such capacity that the milk may nearly or quite fill it. The shape of bottle known as “Winchester” is strongly recommended, but, in any case, the bottles should have rounded sides in order to give security to the sample during transit by post or otherwise.
- (4) Corks only should be used, and these should always be new and sound, and fitting so tightly as to secure the contents without any aid from the wax which is subsequently used for sealing the sample. It is most desirable that the sealing should be carried out in such a way as to prevent any attempt to remove the cork. It is therefore recommended that the cork should be slit down to one-fourth of its length, and the string drawn through and securely fastened round the neck, the ends being afterwards carried to the top of the cork and sealed thereon.
- (5) Special attention should be given that the reserved portion of milk be kept in as equable and cool a temperature as possible, pending its production in Court in instances where proceedings are taken, and, if directed by the Justices to be referred to the Government Laboratory, it should be carefully packed so as to secure its safe transmission.

These regulations are very important, as they fix definitely the standards of milk-fat and milk-solids in milk and skimmed and separated milk at which such articles may be regarded as genuine, and such standards have long been wanting as a base for successful prosecution in the adulteration of milk.



It would be very useful if the Board of Agriculture considered it wise to issue similar regulations for determining what addition of extraneous matter or proportion of water shall, for the purpose of the Food and Drugs Act, raise the presumption that butter is not genuine.

### TESTS FOR FARMERS' MILK.

The Board of Agriculture and Fisheries have lately issued an important leaflet, a copy of which is given below. The matter is under the consideration of the County Council, and it would be encouraging to the farmers if effect were given to these recommendations.

"It is a well-known fact that in the vast majority of cases the milk given by the cows of this country exceeds in butter-fat and other milk-solids the percentage specified in the 'Sale of Milk Regulations, 1901,' made by the Board of Agriculture. It happens, however, occasionally, that for one reason or another, a cow may give milk which does not contain those percentages (3 per cent. of butter-fat and 8·5 per cent. of other milk-solids); and in such cases the dairyman, when prosecuted, is required to prove that the milk is genuine. In order to avoid the trouble and annoyance of a prosecution, farmers, dairymen, and all other cowkeepers are strongly recommended to have samples of milk from their cows tested from time to time. By this means they will be able to watch the seasonal and other variations in the fat contents of the milk and by modifications in the feeding, housing, or time of milking of their cows, and, if necessary, by disposing of animals that give milk of low quality, to keep the quality of their milk at a satisfactory level.

The Board have ascertained that, with the object of assisting farmers in the direction indicated, most of the Agricultural Colleges and Agricultural Departments of the Universities have made arrangements for determining the percentage of butter-fat for a fee of sixpence per sample.

It must, however, be understood that—

- (a) The report sent will refer only to the percentage of butter-fat.
- (b) Each report refers only to the sample tested, and implies no guarantee whatever as to the bulk.
- (c) Each report is supplied solely for the information of the milk producer, and must not be used as evidence in case of any dispute between seller and buyer, or where the quality has been questioned by any public authority.

The directions issued by the Institutions must be carefully observed. They require, as a rule, that :—

- (1) The fee of sixpence should be sent with the sample. In the case of Essex, however, the fee charged by the county is one shilling; while no charge is made by the West of Scotland Agricultural College to farmers residing in the counties contributing to the support of that body.
- (2) A stamped and addressed envelope should be sent for the report.
- (3) Samples should not be sent so as to arrive between Friday night and Monday morning.
- (4) If it is proposed to send samples periodically, as may be in many cases advisable, the Institution should be so informed.
- (5) The sample bottles should be carefully sealed and packed in accordance with the requirements of the General Post Office, and the postage prepaid."

Arrangements have been made by the Agricultural Committee whereby these tests are carried out at the University College, Cardiff.

# SALE OF FOOD AND DRUGS ACTS.

For the purposes of these Acts the County is divided into five Districts :—Barry, Bridgend, Merthyr, Neath, and Pontypridd, and the duties are performed by the Superintendents of Police, acting as Inspectors under the Acts. The number of samples taken during the year was 994. Of these, 243 were taken in the first, 248 in the second, 250 in the third, and 253 in the fourth quarter, or—

214 from Barry District.  
180 „ Bridgend „  
199 „ Merthyr „  
194 „ Neath „  
207 „ Pontypridd „

A list of the samples taken and analysed is given below :—

TABLE XVIII.

|                         |                        |                                     |
|-------------------------|------------------------|-------------------------------------|
| Milk .. .. 615          | Salmon .. .. 3         | Gin .. .. 9                         |
| Butter .. .. 87         | Brawn .. .. 9          | Beer .. .. 3                        |
| Margarine .. .. 7       | Veal Loaf .. .. 1      | Port Wine .. .. 1                   |
| Lard .. .. 38           | Corn Beef .. .. 25     | Flask Oil .. .. 1                   |
| Cheese .. .. 2          | Lunch Tongues .. 11    | Oil of Almonds .. .. 1              |
| Dutch Cheese .. .. 1    | Ground Ginger .. .. 10 | Friar's Balsam .. .. 3              |
| Sago .. .. 4            | Tinned Mutton .. .. 4  | Paregoric .. .. 1                   |
| Arrowroot .. .. 2       | Prime Beef .. .. 1     | Cream of Tartar .. 4                |
| Oatmeal .. .. 3         | Vinegar .. .. 9        | Tincture of Kino .. 1               |
| Tapioca .. .. 4         | Extract of Meat .. 2   | Ammoniated Tincture of Quinine .. 1 |
| Rolled White Oats .. 1  | Demerara Sugar .. 6    | Tincture of Cayenne .. 1            |
| Ground Rice .. .. 1     | Tea .. .. 5            | Tincture Nux Vomica .. 1            |
| Self-Raising Flour .. 3 | Coffee .. .. 4         | Yeast .. .. 1                       |
| Pepper .. .. 32         | Malted Cocoa .. .. 1   | Black Currant Jam .. 2              |
| Mustard .. .. 1         | Cocoa .. .. 1          | Apricot Jam .. .. 1                 |
| Tinned Rabbit .. .. 3   | Cocoa Essence .. .. 1  | Strawberry Jam .. 1                 |
| Sausages .. .. 4        | Currant Cake .. .. 2   | Plum and Apple Jam .. 1             |
| German Sausages .. .. 1 | Whisky .. .. 29        | Raspberry Jam .. 1                  |
| Bloater Paste .. .. 1   | Brandy .. .. 7         | Baking Powder .. .. 5               |
| Lobster .. .. 1         | Rum .. .. 13           |                                     |

The results of the analyses are given in the County Analyst's Quarterly Reports, but it would be instructive to note how the important articles of food, such as milk, butter, &c., stood as far as the addition of preservatives were concerned, such as formaldehyde or formalin, salicylic acid, boric acid, or mixtures thereof, and copper salts.

TABLE XIX.  
MILK.

| Genuine, and fully equal to the Standard. | Slightly under Standard. | Deficient in Butter Fat. | Added Water. | Preservatives.   |
|---|--------------------------|--------------------------|--------------|--|
| 125                                       | 11                       | 20                       | 8            | All free from boric acid and formalin.   |
| 137                                       | 4                        | 2                        | 4            | All free from boric acid and formalin.   |
| 95  | 18                       | 13                       | ..           | Two contained boric acid, 19½ grains per gallon and 27 grains per gallon respectively. |
| 156                                       | 4                        | 6                        | 7            | All free from boric acid and formalin.   |

BUTTER.

| Genuine. | Foreign Fats.     | Preservatives  | Water in large excess. | Remarks.  |
|----------|-------------------|--|------------------------|---|
| 27       | All Free.         | 8 free from boric acid, and 17 contained small amounts                             | Free                   | Two samples consisted wholly of Margarine.  |
| 10       | All Free.         | 10 free from boric acid and 18 contained small quantities, but under 0.5 per cent. |                        | One sample sold under a fancy name was Margarine, and contained boric acid, but not in excess. Three samples sold as Margarine were satisfactory. |
| 15       | All free except 1 | 7 free from boric acid and 18 contained small quantities.                          |                        | One sample found to be wholly Margarine.  |
| 10       | All Free.         | 13 contained boric acid, but less than 0.5 per cent.                               |                        |   |

All the samples of beer examined were free from arsenic and other deleterious ingredients.

#### FERTILIZERS AND FEEDING STUFFS ACT, 1893.

Under this Act 126 samples were received as follows:—Oil Cake, 2; Manure, 1; Basic Slag, 4; Compound Feeding Cake, 1; C. and T. Meal, 1; Dairy Meal, 1; Feeding Meal, 3; Barley Meal, 67; Indian Meal, 6; Linseed, 2; Bran, 1; Bibby's Dairy Meal, 2; Bibby's Feeding Meal, 2; Maize Meal, 1; Superphos-

phate, 15 ; Pure Dissolved Bone, 1 ; Bilston Basic Phosphate, 1 ; Compound Feeding Cake, 1 ; Fattening Cake, 3 ; Linseed Oil Cake, 1 ; Dissolved Bone Compound, 4 ; Dairy Cake, 1 ; Bone Super Compound, 1 ; Molassine Meal, 3 ; and Pollard, 1.

## WATER SUPPLY.

As far back as my Annual Report for 1903 (my second Annual Report to the County Council), I reported thus :—

“ The Water Supply, especially of the mineral area of the County, is a matter of the greatest importance. During the drought of last summer there was a great scarcity in many localities—a condition bordering almost on a water famine. At present a great alarm is felt that there may, should we have a repetition of last summer, be an absolute water famine in the near future if some means are not taken to provide an adequate supply.

In 1881 and 1891 the population of the Administrative County numbered 352,242 and 467,875 respectively, and at mid-year 1893 it has been estimated at 521,872. These figures show how the population has increased during the last decade, and how it is still increasing, what it may become in the future, and how absolutely necessary it is to be in readiness to supply it with sufficient water. In June, 1893, deputations from the Local Boards of Ystradyfodwg (now Rhondda) and Pontypridd waited upon the Water Committee of the County Council and represented that then a serious deficiency of water existed in their districts, and that the prospects for the near future were alarming. The Committee recommended that a deputation, consisting of members of the Water Committee and of the Local Authorities, be sent to the Local Government Board, urging them to introduce into Parliament a measure repealing the Clause prohibiting Local Authorities from competing in Water Supply with private Water Companies within their Districts, and also to authorise the County Council to promote a Bill for providing a Water Supply for the County. Such powers, however, were not granted them. It will soon become necessary that the supply of water to the mineral Districts must be obtained by a large and general scheme from the mountain ranges lying to the north of the coalfields. Merthyr and Cardiff already obtain their supplies from this area, and until such another scheme is provided for the remaining mineral Districts their present and anticipated future populations cannot be said to be adequately supplied with a constant and sufficient quantity of pure and wholesome water, which is a first necessity of life.”

The same matter is referred to in almost every Annual Report which I have since presented, and also in many of my Quarterly Reports, but inasmuch as it is only comparatively quite recently (1903) that County Councils have been placed in the position to promote Bills in Parliameot, the Glamorgan County Council has been practically powerless to move in the matter. The first and most pressing sanitary requirement of the County is a better water supply, and the time has arrived when a large and comprehensive scheme, contemplating the taking of water from the mountain ranges north of the coal-measures should be carried out.

In the last Session of Parliament the County Council promoted “ A Bill to empower the Glamorgan County Council to make inquiries and surveys with a view to the utilisation of Water Supplies in South Wales and to form Water Districts and for other purposes.” This Bill (as amended in Committee) became “ An Act to empower the Glamorgan County Council to make inquiries and surveys with a view to the Utilisation of Water Supplies in South Wales ; and for other purposes.”



The County Council having taken this important and hitherto unprecedented step, and fully realising as it does the great importance of providing the teeming population of its industrial and other centres with an adequate supply of pure and wholesome water, are now utilising the powers that Parliament has been pleased to confer upon them.

For a detailed account of the Water Supplies of the County I would refer you to my special report on "The Water Supplies of Glamorgan," published December, 1902, and "A Summary of Particulars as to (1) District Supplies, &c., and (2) Population and its increase, 1906" :—

The following Improvements are reported to have been effected during the year :—

| <i>District.</i> |    |    |    | <i>Improvements effected or undertaken.</i>   |
|------------------|----|----|----|---|
| ABERAVON         | .. | .. | .. | Extension of mains.   |
| ABERDARE         | .. | .. | .. | Extension of mains to supply the new houses erected.  |
| BARRY            | .. | .. | .. | Extension of mains.   |
| BRIDGEND         | .. | .. | .. | The construction of reservoir and filter beds on Ogmere Down completed.   |
| BRITON FERRY     | .. | .. | .. | Extension—575 yards of 5-inch and 108 yards of 4-inch, and several lengths of 3-inch mains.   |
| GLYNCORWG        | .. | .. | .. | All the houses at Cymmer and Glyncoiwg have been provided with a separate supply, taps having been fixed inside them.   |
| MAESTEG          | .. | .. | .. | Unfortunately the construction of the Storage Reservoir at Blaen-cwmcerwyn, to hold 30,000,000 gallons of water has had to be abandoned, since, after excavating a puddle trench to a depth of 80 feet, no satisfactory bottom was found. |
| MARGAM           | .. | .. | .. | New 10-inch main Tanygroes Lane. Extension of water main to new streets. Additional water supply to Bryn.   |
| MERTHYR TYDFIL   | .. | .. | .. | Supply satisfactory and adequate. The following works are in course of construction :—  |
|                  |    |    |    | (1) Seven Candy's Filters below intake at Upper Neuadd Reservoir.   |
|                  |    |    |    | (2) A new main from Upper Neuadd to Treharris (nearing completion).   |
|                  |    |    |    | (3) A balancing tank at top of Heolgerrig.  |
| MOUNTAIN ASH     | .. | .. | .. | The water supply of the District was abundant.  |
| NEATH            | .. | .. | .. | No improvements or extensions undertaken.   |

| <i>District.</i>                |    |    |    | <i>Improvements effected or undertaken.</i>  |
|---------------------------------|----|----|----|--|
| PENARTH                         | .. | .. | .. | Supply abundant from Cardiff mains.  |
| PONTYPRIDD                      | .. | .. | .. | Supply unsatisfactory. See local summary.  |
| PORTHCAWL                       | .. | .. | .. | A new water supply from Nantcraigyraber has been provided.   |
| RHONDDA                         | .. | .. | .. | Supply inadequate. Additional works are in construction.   |
| COWBRIDGE RURAL                 | .. | .. | .. | Improvements to several wells. Notices served under Public Health (Water) Act, 1878.   |
| GELLIGAER AND RHIGOS            | .. |    |    | A new storage reservoir at Blaenrhydney completed. A new main has been laid down the valley.   |
| GOWER                           | .. | .. | .. | Repairs to several pumps and wells.  |
| LLANDAFF AND DINAS POWIS        |    |    |    | Extension of water mains. Barry District water mains extended to Rhose.  |
| LLANTRISANT AND LLANTWIT FARDRE |    |    |    | The construction of the new Llanilid storage reservoir approaching completion. Several extensions of mains—viz., Beddau and Gylfach Road, Tonyrefail.                                  |
| NEATH RURAL                     | .. | .. | .. | The Ystradfellte waterworks are in hand.   |
| PENYBONT                        | .. | .. | .. | Wells at Maudlam, Tranchi, and Sker repaired. Plans and estimates prepared and sent to the Local Government Board of schemes to supply Llangynwyd, Troedyrhiwgarth, and Pontrhydydyff. |
| PONTARDAWE EAST                 | .. | .. | .. | New water mains (Cray Supply) Ystalyfera to Gwauncaegurwen.  |
| PONTARDAWE WEST                 | .. | .. | .. | New water mains in Alltwen Hill and Southfield, Pontardawe. (Extensions of mains in Clydach and Trebanos.)   |
| LLANDILO-TALYBONT DIVISION      |    |    |    | A large scheme in hand to supply Pontardulais, Gorseinon, &c., and the Local Government Board has approved of the same.  |

The subjoined list furnishes the names of places and localities where the supplies are inadequate :—

| <i>District.</i> |    |    |    | <i>Districts or portions of Districts inadequately supplied.</i>                               |
|------------------|----|----|----|--|
| ABERAVON         | .. | .. | .. | Council's own supply inadequate. The additional supply required is provided from Margam mains. |
| ABERDARE         | .. | .. | .. | Supply adequate, but water possesses plumbo-solvent action.                                    |
| BRITON FERRY     | .. | .. | .. | Inadequate in dry weather.   |

| <i>District.</i>                     | <i>Districts or portions of Districts inadequately supplied.</i> |    |   |
|--------------------------------------|--|----|---|
| CAERPHILLY .. ..                     | ..   | .. | Inadequate and unsatisfactory.  |
| COWBRIDGE BOROUGH..                  | ..   | .. | Inadequate in the whole District.   |
| GLYNCORWG .. ..                      | ..   | .. | Present storage capacity inadequate.  |
| MAESTEG.. ..                         | ..   | .. | Inadequate in dry seasons.  |
| NEATH BOROUGH ..                     | ..   | .. | Short at times.   |
| OGMORE AND GARW ..                   | ..   | .. | Very scarce at Bettws, Lletty Brongu, and Gilfach Goch.   |
| OYSTERMOUTH ..                       | ..   | .. | Intermittent, inadequate, and unsatisfactory on analysis.   |
| PONTYPRIDD .. ..                     | ..   | .. | Short in dry seasons, all available sources utilised, population increasing. Water possesses plumbo-solvent action.             |
| RIHONDDA .. ..                       | ..   | .. | Inadequate. A large scheme in construction. Water collected from certain areas possesses plumbo-solvent action.                 |
| COWBRIDGE RURAL ..                   | ..   | .. | Inadequate at St. Donats, Pontyclun, St. Hilary, Llanblethian, and other places.  |
| GELLIGAER AND RHIGOS ..              | ..   | .. | Inadequate at Fochriw, Pentwyn, Gelligaer, and Cylla Valley.  |
| GOWER .. ..                          | ..   | .. | Llanrhidian Higher, Knelston, Horton, Scurlage Castle, &c.  |
| LLANDAFF AND DINAS POWIS             | Pentyrch, Penygarn, and several other places.                    |    |   |
| LLANTRISANT AND LLANTWIT-<br>FARDRE. | Inadequate in several localities.                                |    |   |
| NEATH RURAL .. ..                    | ..   | .. | Tonna, Cimla, Glyn Neath, Resolven, Cilfrew, Crynant, Seven Sisters, Cadoxton, Pontrhydyfen, and Cwmavon. Large scheme in hand. |
| PENYBONT .. ..                       | ..   | .. | Pencoed, Penprisk, Pontryhdycyff, St. Brides Major, and Heolyciw.   |
| SWANSEA RURAL ..                     | ..   | .. | The whole of the District. A large scheme in hand.  |

### THE EXAMINATION OF WATER SUPPLIES.

As in former years samples from the main sources of supply of the County have been systematically examined at the County Laboratory, both chemically and bacteriologically every quarter. A large number of samples also from suspected wells, &c., and proposed new sources, have been investigated.

120 samples were examined chemically ; of these, 65 were satisfactory ; 44 were suspicious ; and 11 unfit.

107 samples were examined bacteriologically ; of these, 38 were satisfactory ; 25 suspicious ; and 44 unfit.

In every instance the results of the analysis were sent to the District Councils concerned.

Although such an undertaking entails an enormous amount of work, yet it is of the greatest importance that the County Council should be in possession of the valuable data thus obtained.

None of the District Councils possess a Laboratory, and their Medical Officers of Health do not undertake analytical work of this description.

## SEWERAGE AND SEWAGE DISPOSAL WORKS.

Additional and important sewerage and sewage disposal works have been completed or undertaken in many Districts during the year, and it is very gratifying to put on record the completion of some very comprehensive schemes, and of others in contemplation. This is one of the most important features associated with the progress of sanitation in the County during recent years.

| <i>Districts.</i> |    |    |    | <i>Improvements effected or undertaken.</i>   |
|-------------------|----|----|----|---|
| ABERAVON          | .. | .. | .. | The sewerage of Velindre completed. Extension of sewers and drainage of moors contemplated.                       |
| ABERDARE          | .. | .. | .. | Several extensions, and repairs.  |
| BARRY             | .. | .. | .. | Extensions of sewers and drains—1,911 lineal yards.   |
| BRIDGEND          | .. | .. | .. | Extension of sewers in Cemetery Road Lane. Storm water sewers in Edward Street.                                   |
| BRITON FERRY      | .. | .. | .. | Several extensions.   |
| CAERPHILLY        | .. | .. | .. | Several extensions ; the whole District, except Nelson, is now sewered.   |
| MAESTEG           | .. | .. | .. | The scheme of sewerage and sewage disposal works completed, and all house drains and subsidiary sewers connected. |
| MARGAM            | .. | .. | .. | Sewer extension at Toneirych and Gwarycaeau.  |
| MERTHYR BOROUGH   | .. | .. | .. | Sewerage of Graigberthlwyd.   |
| MOUNTAIN ASH      | .. | .. | .. | New subsidiary sewers for parts of Abercynon and North Street, Ynysybwl.  |
| OGMORE AND GARW   | .. | .. | .. | Garw scheme and sewage farm completed, and all houses within satutory distance connected.                         |
| OYSTERMOUTH       | .. | .. | .. | Surface water sewer and several extensions.   |



| <i>Districts.</i>                   |    |    |    | <i>Improvements effected or undertaken.</i>   |
|-------------------------------------|----|----|----|---|
| PENARTH .. ..                       | .. | .. | .. | Sewerage extensions and new sewage disposal works under consideration.  |
| PONTYPRIDD .. ..                    | .. | .. | .. | Extension of sewers in various places.  |
| PORTHCAWL .. ..                     | .. | .. | .. | Sewerage extension scheme at Newton.  |
| RHONDDA .. ..                       | .. | .. | .. | Extension of sewers where necessary.  |
| COWBRIDGE RURAL .. ..               | .. | .. | .. | Improvement of sewer outfalls at Dolau, Brynna, and River Row, Pontyclun.   |
| GELLIGAER AND RHIGOS ..             | .. | .. | .. | Plans, etc., of scheme of sewerage for Hengoed, Ystradmynach, and Cylla Valley.   |
| LLANDAFF AND DINAS POWIS            |    |    |    | Ely sewerage works completed ; several extensions.  |
| LLANTRISANT AND LLANTWIT-<br>FARDRE |    |    |    | The sewerage of Church Village completed. Several extensions.   |
| NEATH RURAL .. ..                   | .. | .. | .. | Extension of sewers in various parts.   |
| PENYBONT .. ..                      | .. | .. | .. | Schemes of sewerage under consideration for Parish of Tythegston Higher and Pyle.   |
| PONTARDAWE .. ..                    | .. | .. | .. | New sewers ; several extensions at Cwmgorse, Ystalyfera, and Gwaencaegurwen. Plans, etc., prepared for scheme of sewerage for Ystalyfera and Clydach. |
| LLANDILO-TALYBONT DIVISION          |    |    |    | Plans, etc., for sewerage schemes of Gorseinon and Pontardulais completed.  |

Systems of sewerage are urgently needed in several places :—

| <i>Districts .</i>    |    |    |    | <i>Requirements.</i>  |
|-----------------------|----|----|----|---|
| CAERPHILLY .. ..      | .. | .. | .. | Sewerage of Ystrad Mynach and Nelson.   |
| COWBRIDGE BOROUGH ..  | .. | .. | .. | Whole District. River receives all slop sewage.   |
| GLYNCORWG .. ..       | .. | .. | .. | Several joint conferences held with reference to proposed main trunk sewer. The scheme is still under consideration by the various Councils interested. |
| OGMORE AND GARW .. .. | .. | .. | .. | Main trunk sewers for Ogmore Valley and Gilfach Goch  |
| OYSTERMOUTH .. ..     | .. | .. | .. | The sewerage of Newton and Langland.  |
| PENARTH .. ..         | .. | .. | .. | Sewage disposal works.  |
| PONTYPRIDD .. ..      | .. | .. | .. | Several extensions.   |

| <i>Districts.</i>               |    |    |    | <i>Requirements.</i>  |
|---------------------------------|----|----|----|---|
| RHONDDA                         | .. | .. | .. | Extension for Appletree houses, Dinas, and Bush houses (Clydach Vale).  |
| COWBRIDGE RURAL                 | .. | .. | .. | The sewerage of several localities.   |
| GELLIGAER AND RHIGOS            | .. | .. | .. | The sewerage of Hengoed, Ystradmynach, Cylla Valley, Pengam, and Gelligaer Village.   |
| LLANTRISANT AND LLANTWIT-FARDRE | .. | .. | .. | Sewage disposal works for Ely Valley, Tonyrefail, Penrhiwfer, Edmundstown, Pentonteg, and Efail Isaf.   |
| NEATH                           | .. | .. | .. | The sewerage of Cwmavon, Glyn Neath, Resolven, Cadoxton, Seven Sisters, and other villages.   |
| PENYBONT                        | .. | .. | .. | The sewerage of Pencoed, Kenfig Hill, Coychurch, Southerndown, Coity, St. Brides Major, Wick, Tythegston, and Pyle.   |
| PONTARDAWE                      | .. | .. | .. | The sewerage of Ystalyfera, Clydach, &c.  |
| SWANSEA RURAL                   | .. | .. | .. | The greater portion of the whole District is unsewered, including Gorseinon, Pontardulais, Waunarlwydd, Fforest Fach, Cockett, Sketty, and many other populous centres. |

# Chemical Examinations of Sewages and Sewage Effluents in the County of Glamorgan.

THE FIGURES REFER TO PARTS PER 100,000.

TABLE XX.

| SAMPLE.              | Date Collected 1906. | Suspended Matter. | Free Ammonia. | Albuminoid Ammonia. | Oxygen absorbed in 4 hours. | Putrescibility. | Nitrogen as Nitrates. | Chlorine. | Reaction.        | PERCENTAGE PURIFICATION CALCULATED ON |                     |
|----------------------|----------------------|-------------------|---------------|---------------------|-----------------------------|-----------------|-----------------------|-----------|------------------|---------------------------------------|---------------------|
|                      |                      |                   |               |                     |                             |                 |                       |           |                  | (a)                                   | (b)                 |
|                      |                      |                   |               |                     |                             |                 |                       |           |                  | Oxygen absorbed                       | Albuminoid Ammonia. |
|                      |                      |                   |               |                     |                             |                 |                       |           |                  | per cent.                             | per cent.           |
| <b>BRIDFORD.</b>     |                      |                   |               |                     |                             |                 |                       |           |                  |                                       |                     |
| Crude Sewage         | January 4th          | 46.8              | 2.53          | .82                 | 7.10                        | 4.10            | Nil                   | 4.3       | Alkaline         | 98.1                                  | 96.8                |
| Effluent             | "                    | t.o.              | .02           | .02                 | .13                         | Nil             | 2.86                  | 5.1       | "                | ...                                   | ...                 |
| Crude Sewage         | March 9th            | 81.0              | 1.03          | .69                 | 3.70                        | 4.60            | t.o.                  | 3.0       | "                | ...                                   | ...                 |
| Effluent             | "                    | t.o.              | .08           | .05                 | .19                         | Nil             | 1.97                  | 3.0       | "                | ...                                   | ...                 |
| Crude Sewage         | June 22nd            | 89.3              | 5.40          | 2.52                | 13.5                        | 2.40            | t.o.                  | 13.4      | "                | ...                                   | ...                 |
| Effluent             | "                    | t.o.              | .32           | .14                 | .92                         | .04             | 2.80                  | 12.5      | Neutral          | ...                                   | ...                 |
| Crude Sewage         | December 17th        | 47.2              | 2.40          | 1.06                | 8.98                        | 2.50            | Nil                   | 7.6       | Alkaline         | ...                                   | ...                 |
| Effluent             | "                    | t.o.              | .03           | .02                 | .18                         | Nil             | 1.44                  | 3.3       | "                | ...                                   | ...                 |
| <b>TIRPHIL.</b>      |                      |                   |               |                     |                             |                 |                       |           |                  |                                       |                     |
| Crude Sewage         | January 18th         | 1622.0            | 9.85          | 11.25               | 82.4                        | 6.50            | t.o.                  | 4.5       | Faintly alkaline | ...                                   | ...                 |
| Effluent             | "                    | s.a.              | .01           | .02                 | .10                         | Nil             | 3.14                  | 2.8       | "                | ...                                   | ...                 |
| Crude Sewage         | March 23rd           | 44.7              | 3.46          | 1.44                | 6.24                        | 2.72            | t.o.                  | 6.7       | Alkaline         | ...                                   | ...                 |
| Effluent             | "                    | t.o.              | .17           | .03                 | .22                         | Nil             | 1.87                  | 3.3       | "                | ...                                   | ...                 |
| Crude Sewage         | July 6th             | 114.6             | 4.80          | 1.16                | 12.3                        | 1.10            | t.o.                  | 13.6      | "                | ...                                   | ...                 |
| Effluent             | "                    | t.o.              | .19           | .04                 | .24                         | .04             | .50                   | 11.4      | "                | ...                                   | ...                 |
| <b>TROEDYTH.</b>     |                      |                   |               |                     |                             |                 |                       |           |                  |                                       |                     |
| Crude Sewage         | January 11th         | 31.8              | 1.52          | .89                 | 6.82                        | 2.13            | t.o.                  | 6.2       | Alkaline         | ...                                   | ...                 |
| Effluent             | "                    | t.o.              | .12           | .02                 | .17                         | .03             | .74                   | 3.0       | "                | ...                                   | ...                 |
| Crude Sewage         | March 30th           | Large             | 2.03          | 1.97                | 11.8                        | 1.34            | t.o.                  | 8.8       | "                | ...                                   | ...                 |
| Effluent             | "                    | s.a.              | .21           | .05                 | .30                         | Nil             | .25                   | 2.8       | "                | ...                                   | ...                 |
| Crude Sewage         | June 15th            | 33.6              | 2.75          | 1.66                | 10.8                        | 1.23            | t.o.                  | 7.2       | "                | ...                                   | ...                 |
| Effluent             | "                    | 3.6               | .58           | .14                 | 1.02                        | .22             | t.o.                  | 4.2       | "                | ...                                   | ...                 |
| Crude Sewage         | October 10th         | 19.6              | 2.02          | .87                 | 5.98                        | 1.55            | t.o.                  | 6.6       | "                | ...                                   | ...                 |
| Effluent             | "                    | t.o.              | .003          | .005                | .06                         | Nil             | .55                   | 2.8       | "                | ...                                   | ...                 |
| Crude Sewage         | December 13th        | 40.6              | 1.98          | .89                 | 6.02                        | 1.95            | Nil                   | 7.0       | "                | ...                                   | ...                 |
| Effluent             | "                    | s.a.              | .16           | .03                 | .23                         | Nil             | .43                   | 3.0       | "                | ...                                   | ...                 |
| <b>MAESTEG.</b>      |                      |                   |               |                     |                             |                 |                       |           |                  |                                       |                     |
| Crude Sewage         | January 29th         | s.a.              | .42           | .05                 | .33                         | .17             | t.o.                  | 3.4       | Faintly alkaline | ...                                   | ...                 |
| Effluent             | "                    | s.a.              | .56           | .58                 | 3.08                        | .63             | t.o.                  | 5.4       | "                | ...                                   | ...                 |
| Crude Sewage         | November 15th        | 51.2              | 1.12          | .20                 | 1.82                        | .27             | t.o.                  | ...       | ...              | ...                                   | ...                 |
| Effluent             | "                    | s.a.              | ...           | ...                 | ...                         | ...             | ...                   | ...       | ...              | ...                                   | ...                 |
| <b>GILFACH GOCH.</b> |                      |                   |               |                     |                             |                 |                       |           |                  |                                       |                     |
| Crude Sewage         | January 25th         | 31.8              | 2.68          | .64                 | 5.10                        | 2.00            | t.o.                  | 4.4       | Alkaline         | ...                                   | ...                 |
| Effluent             | "                    | s.a.              | ...           | ...                 | .68                         | .14             | .80                   | 4.6       | "                | ...                                   | ...                 |
| Crude Sewage         | March 16th           | 21.2              | 2.92          | .68                 | 4.96                        | 2.03            | t.o.                  | 5.0       | "                | ...                                   | ...                 |
| Effluent             | "                    | t.o.              | .92           | .65                 | .48                         | Nil             | .80                   | 4.8       | "                | ...                                   | ...                 |
| Crude Sewage         | June 29th            | 129.7             | 4.28          | 1.58                | 15.2                        | 1.65            | Nil                   | 8.3       | "                | ...                                   | ...                 |
| Effluent             | "                    | s.a.              | .42           | .09                 | .87                         | Nil             | 0.3                   | 9.9       | "                | ...                                   | ...                 |
| Crude Sewage         | October 21st         | 122.6             | 2.32          | 1.82                | 9.20                        | 3.55            | Nil                   | 5.6       | "                | ...                                   | ...                 |
| Effluent             | "                    | t.o.              | .62           | .05                 | .29                         | .16             | 3.00                  | 8.4       | "                | ...                                   | ...                 |
| Crude Sewage         | December 6th         | 74.6              | 3.80          | 1.82                | 10.6                        | 1.85            | t.o.                  | 6.7       | "                | ...                                   | ...                 |
| Effluent             | "                    | t.o.              | .65           | .08                 | .49                         | .05             | 1.50                  | 5.4       | "                | ...                                   | ...                 |
| <b>MOUNTAIN ASH.</b> |                      |                   |               |                     |                             |                 |                       |           |                  |                                       |                     |
| Crude Sewage         | February 2nd         | 9.8               | 1.28          | .40                 | 1.29                        | .24             | Nil                   | 2.7       | Alkaline         | ...                                   | ...                 |
| Effluent             | "                    | s.a.              | .53           | .14                 | .36                         | .10             | .05                   | 2.3       | "                | ...                                   | ...                 |
| Crude Sewage         | April 5th            | ...               | 1.25          | .44                 | 1.50                        | .58             | t.o.                  | ...       | "                | ...                                   | ...                 |
| Effluent             | "                    | s.a.              | 1.04          | .17                 | .62                         | .34             | t.o.                  | ...       | "                | ...                                   | ...                 |
| Crude Sewage         | July 30th            | 19.2              | 1.09          | .74                 | 6.25                        | .85             | t.o.                  | 5.8       | Neutral          | ...                                   | ...                 |
| Effluent             | "                    | 10.1              | .98           | .38                 | 4.02                        | .82             | t.o.                  | 5.0       | "                | ...                                   | ...                 |
| Crude Sewage         | October 17th         | 18.8              | .63           | .34                 | 2.04                        | .98             | Nil                   | 3.6       | Alkaline         | ...                                   | ...                 |
| Effluent             | "                    | 4.6               | .43           | .14                 | .89                         | .10             | Nil                   | 3.1       | "                | ...                                   | ...                 |

t.o.—Traces only.

s.a.—small amount.

TABLE XX.—CONTINUED.

| SAMPLE.  | Date Collected 1906. | Suspended Matter. | Free Ammonia. | Albuminoid Ammonia. | Oxygen absorbed in 4 hours. | Putrescibility. | Nitrogen as Nitrates. | Chlorine. | Reaction.        | PERCENTAGE PURIFICATION CALCULATED ON |                     |
|--|----------------------|-------------------|---------------|---------------------|-----------------------------|-----------------|-----------------------|-----------|------------------|---------------------------------------|---------------------|
|  |                      |                   |               |                     |                             |                 |                       |           |                  | (a)                                   | (b)                 |
|  |                      |                   |               |                     |                             |                 |                       |           |                  | Oxygen absorbed.                      | Albuminoid Ammonia. |
| PAIKNEWYDD.<br>Crude Sewage Effluent<br>Crude Sewage Effluent<br>Crude Sewage Effluent<br>Crude Sewage Effluent<br>Crude Sewage Effluent | February 9th         | 5.2               | .76           | .13                 | .60                         | .26             | .13                   | 2.6       | Alkaline         | 93.4                                  | 96.0                |
|  | April 20th           | 42.6              | 1.70          | .113                | 7.80                        | 2.02            | Nil                   | 3.9       | "                | 99.4                                  | 99.2                |
|  | July 13th            | 10.2              | .53           | .28                 | 2.04                        | 1.04            | Nil                   | 4.8       | "                | 94.3                                  | 95.3                |
|  | October 25th         | 8.2               | .80           | .27                 | 2.02                        | .94             | Nil                   | 4.1       | "                | 94.6                                  | 93.0                |
|  | "                    | t.o.              | .01           | 0.2                 | .11                         | Nil             | 1.66                  | 4.2       | "                |                                       |                     |
|  | "                    | t.o.              |               |                     |                             |                 |                       |           |                  |                                       |                     |
| OWMAVON.<br>Crude Sewage Effluent<br>Crude Sewage Effluent<br>Crude Sewage Effluent<br>Crude Sewage Effluent                             | February 16th        | 21.8              | 2.32          | 1.14                | 5.26                        | 1.04            | t.o.                  | 4.8       | Faintly alkaline | 65.0                                  | 79.0                |
|  | July 27th            | 8.6               | 1.07          | .23                 | 2.10                        | .94             | t.o.                  | 3.4       | "                | 13.3                                  | 13.1                |
|  | November 8th         | 12.2              | 1.14          | .26                 | 2.32                        | .74             | Nil                   | 4.4       | "                | 15.5                                  | 3.8                 |
|  | "                    | 6.3               | 1.09          | .25                 | 1.96                        | .71             | Nil                   | 4.5       | "                |                                       |                     |
|  | "                    |                   |               |                     |                             |                 |                       |           |                  |                                       |                     |
|  | "                    |                   |               |                     |                             |                 |                       |           |                  |                                       |                     |
| YNYSBWL.<br>Crude Sewage Effluent<br>Crude Sewage Effluent<br>Crude Sewage Effluent<br>Crude Sewage Effluent<br>Crude Sewage Effluent    | February 23rd        | 26.2              | .78           | .31                 | —                           | .96             | Nil                   | 3.0       | Faintly alkaline | —                                     | 71.0                |
|  | May 1st              | 32.4              | 2.37          | 1.01                | 6.20                        | 1.12            | t.o.                  | 10.7      | Alkaline         | 37.5                                  | 40.6                |
|  | July 30th            | 18.2              | 2.09          | 1.03                | 8.60                        | 1.10            | t.o.                  | 11.6      | "                | 72.5                                  | 76.7                |
|  | November 30th        | 62.6              | 3.10          | .50                 | 4.32                        | 1.24            | Nil                   | 5.6       | "                | 35.7                                  | 38.0                |
|  | "                    | 13.1              | 1.34          | .31                 | 2.78                        | .72             | t.o.                  | 4.2       | "                |                                       |                     |
|  | "                    |                   |               |                     |                             |                 |                       |           |                  |                                       |                     |
| NEW ROAD, YNYSBWL.<br>Crude Sewage Effluent<br>Crude Sewage Effluent<br>Crude Sewage Effluent  | May 25th             | 48.3              | 6.01          | 2.80                | 13.2                        | 2.10            | t.o.                  | 11.8      | Alkaline         | 69.5                                  | 75.7                |
|  | November 30th        | 50.3              | 2.36          | 2.08                | 11.8                        | 1.32            | Nil                   | 6.5       | "                | 78.0                                  | 84.0                |
|  | "                    | 5.8               | .73           | .33                 | 2.60                        | 0.8             | .20                   | 4.2       | "                |                                       |                     |
|  | "                    |                   |               |                     |                             |                 |                       |           |                  |                                       |                     |
| PONTARDANE.<br>Crude Sewage Effluent<br>Crude Sewage Effluent<br>Crude Sewage Effluent   | May 18th             | 38.4              | 5.58          | 1.76                | 10.8                        | 1.50            | t.o.                  | 8.2       | Alkaline         | 90.6                                  | 91.5                |
|  | August 3rd           | 20.8              | 2.16          | .44                 | 3.92                        | 1.05            | t.o.                  | 5.2       | "                | 81.4                                  | 79.5                |
|  | "                    | s.a.              | .59           | .09                 | .73                         | Nil             | 4.60                  | 5.5       | "                |                                       |                     |
|  | "                    |                   |               |                     |                             |                 |                       |           |                  |                                       |                     |

t.o.—Traces only.

s.a.—Small amount.



## CHEMICAL ANALYSES OF SEWAGES AND SEWAGE EFFLUENTS

CARRIED OUT IN 1906.

## GENERAL REMARKS:—

*Organic Ammonia.*—A common standard for a good effluent is that it should contain less than 0.1 part per 100,000 of organic ammonia.

Where the corresponding crude sewage is of a strong character, a higher limit may be allowable.

*Putrescibility.*—The results given under this column are measured as the increase in the oxygen absorbed by readily oxidisable organic matter after seven days' incubation, compared with that on the original sample. A good effluent should show no increase after incubation.

*Nitrates.*—In general, the higher the relative proportion of nitrates, and the more satisfactory the effluent, since nitrates are the final products of the oxidation of nitrogenous organic matter.

*Chlorine.*—With no dilution of the effluent, by rain or other water, the chlorine figures in the effluent and the corresponding crude sewage will be approximately the same.

## REMARKS ON ANALYSES.

## BRITHDIR.

Samples of crude sewage were usually of a fairly strong character.

Throughout the year the percentage of purification was high, and the analytical results again indicate efficient working of the filter beds.

## TIRPHIL.

Crude sewages were of a strong character, and in all cases the effluents were of excellent quality, and showed a high degree of purification.

## TROEDYRHIW.

Samples of crude sewage were of a strong character. The June effluent proved unsatisfactory; all the other effluents showed efficient purification.

## MAESTEG.

Two effluents from these beds were collected. The first sample was of moderate quality; the second one unsatisfactory.

## GILFACH.

Crude sewages were usually of a strong character. All the samples of effluent collected during the year may be regarded as satisfactory, showing fairly efficient purification.

## MOUNTAIN ASH.

Samples of crude sewage were usually of less than average strength. Throughout the year these effluents have been unsatisfactory, being in each case putrescible and showing very little oxidation.

## PARKNEWYDD.

The crude sewage collected in April was a strong one ; the others were of a fairly weak character. As in previous years all the effluents proved to be highly satisfactory, being clear, non-putrescible, and showing efficient oxidation.

## CWMAVON.

The effluents from these filter-beds again gave most unsatisfactory results throughout the year, although the majority of the crude sewages were fairly weak. All the effluents were strongly putrescible and showed no final oxidation.

## YNYSYBWL.

The crude sewages were usually of moderate strength. The sample of effluent collected in February was fairly satisfactory, but all the later samples were distinctly putrescible and showed little oxidation.

## YNYSYBWL, NEW ROAD TANKS.

Crude sewages were both of a strong character. The November effluent was better than that collected in May, but both were unsatisfactory.

## PONTARDAWE.

Both of these effluents were satisfactory, and indicated efficient oxidation.

## REFUSE DISPOSAL.

There are only two refuse destructors in the Administrative County, viz., one at Barry, in which is destroyed the refuse of the whole District ; and one, a Mason's Gasifier (an experimental one) at the Rhondda, and which destroys only a very small fraction of the refuse of the District.

The disposal of refuse is one of the most difficult problems that Sanitary Authorities in the mining valleys of this County have to grapple with. There are indications, however, that this solution of this problem is now receiving attention, and that in the near future refuse destructors will be provided, *e.g.*, at Aberdare, Merthyr, Pontypridd, and Rhondda Valley, the urgent necessity for which has been repeatedly referred to in the annual reports of these Districts.

Since this subject has been dealt with in detail in several previous Annual Reports, and as no actual change has taken place in this direction, I do not deem it necessary to enlarge upon the matter, but would refer you to the local summaries.

## POLLUTION OF RIVERS AND STREAMS.

Much work has been done during recent years with a view to prevent the pollution of our rivers by sewage ; and as far as sewage is concerned, I do not experience any difficulty, now that the requirements of the Local Government Board with respect to land are altered on the recommendation of the Royal Commission on Sewage Disposal. In some of our long, narrow, and crooked valleys it is often impossible to acquire sufficient areas of land within reasonable and suitable distances for sewage disposal purposes.

In the whole County there are thirty Sanitary Districts, and out of these, thirteen, representing a population of some 516,000, discharge their crude sewage into *tidal rivers* and the *sea*, and the sewage of some nine, or parts thereof, are treated on sewage farms, of which there are several, large and small, and one of the oldest (Merthyr) in the country.

During the last dozen years, through the action of the County Council, several old sewerage works have been improved, and many new works constructed ; and when the works now in progress are completed, the expenditure on these works will reach a sum of over £600,000 in thirteen years.

With regard to *pollution by small coal*, little has been done, except in a few places where washing machines are used, and where the small coal contained in the washing water, and in the water pumped from the pits, is allowed to settle in large tanks before it is discharged into the rivers, the reason for the fact that so little has been accomplished in this direction being that small coal causes "inocuous discolouration," and this is not considered to be pollution according to the Rivers Pollution Prevention Acts. This shows that extended powers by a Special Act or the amendment of the existing Acts is very necessary in this County.

With regard to pollution caused by Tinplate Works, I would refer you to my Quarterly Report for December, 1902. It is much less than was the case a few years ago, for now at nearly all of these works the "pickle," by the addition of scrap iron and continuous evaporation in properly constructed vats, is completely converted into sulphate of iron ( $\text{FeSO}_4$ ), or "copperas."

Particulars in respect of these works and the effluents therefrom are given in each of my Quarterly Reports, to which I would refer you.

The "swilling fluid" is in some places filtered through filters of broken limestone and of earth, and a large proportion of the acid and other impurities is thus got rid of, provided these filters are changed as often as required. There is, however, a tendency to allow these filters to take care of themselves, which they are unable to do, and consequently constant supervision is necessary.

It is worthy of note that :—

- I. All the Glamorgan rivers have their origin within the County, or in the mountainous and uninhabited regions immediately beyond the northern boundary of the County, at elevations varying from 1,000 to 2,000 feet. They are consequently comparatively short, swift-running, the longest not more than 40 miles, so that their pollution takes place almost entirely in the County, and consequently it should not be so difficult (as in flat countries) to abate. Besides, no joint river boards are necessary.
- II. The water of *none* of the Glamorgan rivers is *used for drinking purposes* after any sewage has been discharged into them. Such a condition of things is highly satisfactory as compared with other important rivers, such as the Dee, Severn, &c.
- III. The principal pollutions of rivers in Glamorgan are occasioned by :—
  - (a) Sewage—excremental and slop sewage.
  - (b) Small coal—from our many collieries ; and
  - (c) Refuse from tinplate works—consisting of vitriol and sulphate of iron.

I would quote a few paragraphs from the evidence which I gave before the Royal Commission on Sewage Disposal, thus :—

- (a) That in this County, at any rate, greater progress would have been made in purifying our rivers had *not* the Local Government Board insisted, under all circumstances, on the hard-and-fast rule of land treatment in addition to artificial filtration.
- (b) That it is important to have as many Joint Sewerage Districts as possible in such a County as Glamorgan, where the valleys are so narrow and land difficult to obtain.
- (c) That no crude sewage should be discharged into the sea except after the most careful consideration of *all* local circumstances, and after careful experiments made with different float materials as to direction of the currents at various conditions of the tide.
- (d) That similar experiments and examinations of the water (chemical and bacterial) should be made in the case of tidal rivers and estuaries.
- (e) That the Government should countenance the establishment of Health Laboratories where sewage effluents, and manufacturers' refuse, and other materials discharged into rivers, estuaries, sea, &c., can be thoroughly examined, if and when required, and that these should be under the control of the County Councils.

A great deal of work, however, has been done during the year to reduce the pollution of rivers taking place in the County, and the following schemes of sewerage completed, in construction, or about to be undertaken, will greatly reduce the pollution by sewage :—

*In the Watershed of the Rhymney.*

The sewerage of Pengam, Hengoed, Ystradmynach, Cylla Valley, and Gelligaer about to be undertaken—Gelligaer District.

There yet remains to be sewered in this Watershed the following places, viz. :—Fleur-de-lis and Maescymmmer (Mon) ; Pengam, Hengoed, and Part of Ystradmynach, Cylla Valley—Gelligaer District ; and Ystradmynach (part of)—Caerphilly District.

*In the Watershed of the Taff.*

At Cefn-Coed-Cymmer (in Vaynor and Penderyn District) new works are about to be commenced. At present all the sewage is discharged into the Taff River at various points.

The sewerage of Merthyr is practically complete, with the exception of a few isolated houses.

The sewerage of Aberdare and Mountain Ash is practically complete.

In the Rhondda at the end of the year there remained 513 houses unconnected (as compared with 451 at the end of 1905), viz. :—Bush houses, 50, Appletree, Dinas, about 50, and scattered farms, &c.

The sewerage of Pontypridd is practically complete, but a few subsidiary sewers are still required, and are being provided.



*In the Watershed of the Ely.*

Sewage Disposal Works for Penrhiwter, Edmundstown, Tonyrefail, Pentonteg, Efail Isaf, in hand, that of Church Village, completed.

*In the Watershed of the Ogmere.*

The sewerage of the Garw Valley is completed.

In the Ogmere and Ogmere Fach Valleys, Sewerage and Sewage Disposal Works are required.

*In the Afan Watersheds.*

Glyncorwg unsewered. Pontrhydyfen and Cwmavon unsewered. The slop sewage of a part of Cwmavon is dealt with in bacterial tanks, but in a very inefficient manner.

The sewerage of Velindre completed.

*In the Neath Watershed.*

All the centres in this valley, except Skewen, are unsewered, viz. :—Pontneathvaughan, Glyn Neath, Resolven, Clyne, Aberdulais, Cadoxton, Cilfrew, and Seven Sisters.

*In the Watershed of the Tawe (Swansea Valley).*

The sewerage of Pontardawe has been completed.

The sewerage and sewage disposal works for Clydach and Ystalyfera in hand, and that of Cwmgorse completed.

The populous centres in the Llangyfelach Division are unsewered.

*In the Watershed of the Loughor.*

None of the important centres in the Pontardawe and the Llangyfelach Districts within this Watershed are completely sewered.

From the above resumé it will be seen that much work is being done with a view of preventing the pollution of our rivers by sewage, and, as far as the sewage is concerned, I do not experience any difficulty now that the requirements of the Local Government Board with respect to land are altered on the recommendations of the Royal Commission on Sewage Disposal.

The pollution of rivers which the County Council has to contend with takes place *entirely* within the County, that is, to say, all our rivers have their origin practically within the County or very near the boundary. It is satisfactory to put on record that “pollution by sewage” is becoming less, year by year, as schemes of sewerage and sewage disposal are being carried out; and when the many schemes now undertaken or about to be undertaken are completed it will become still less.

The discolouration of rivers and streams by small coal washings is a difficult one to abate in this County, and the Rivers Pollution Prevention Acts should be so amended as to be applicable to small coal

washings and tinsplate effluents, as is the case in other industrial centres. Sections 14 and 15 of the Mersey and Irwell Joint Committee Act, 1892, reads thus:—

“ Sec. 14.—(1) In this Act—

The term “ person ” includes a Sanitary Authority and any other body of persons whether corporate or not corporate.

The term “ stream ” includes canalised streams, brooks, and watercourses.

The term “ solid matter ” does not include particles of matter in suspension in water.

(2).—Any liquid which merely occasions innocuous discolouration of any river or stream shall not be deemed to be polluting for the purposes of this Act.

Sec. 15.—Notwithstanding anything in this Act contained, no person shall be deemed to have committed an offence against this Act or be liable to any proceeding under this Act by reason or in consequence of any water flowing into the River Mersey or the River Irwell, or any tributary thereof respectively, in the same condition as that to which such water has been drained or raised from any mine, pit shaft, or quarry, by reason or in consequence of any water flowing into the River Mersey or the River Irwell, or any tributary thereof respectively, from any colliery or pit bank, or by reason or in consequence of any water so flowing which has passed through an efficient settling tank in connection with any coal-washing machinery.”

I would again call the attention of Local Authorities who allow sewage to be discharged into watercourses, to Sec. 1 of the Rivers Pollution Prevention Act, 1893:—“ *Where any sewage falls or flows, or is carried into a stream after passing through or along a channel which is invested in a Sanitary Authority, the Sanitary Authority shall, for the purposes of Sec. 3 of the Rivers Pollution Prevention Act, 1876, be deemed to knowingly permit the sewage matter so to fall, flow, or be carried.*”

The section of the 1876 Act referred to above runs:—“ *Every person who causes to fall or flow, or knowingly permits to fall or flow, or be carried into any stream, any solid or liquid sewage matter, shall (subject as in this Act mentioned) be deemed to have committed an offence against this Act.*”

It may be noticed that by Sec. 14 of the Local Government Act, 1888, the County Council has power to enforce the provisions of the above.

## FACTORIES AND WORKSHOPS.

Some years ago attention was called to the provisions of the Factory and Workshops Act, 1901, under which extended supervision of Workshops was imposed on Medical Officers of Health, and they were required to report upon them annually. From the reports under review it is evident that some District Councils have regarded the new duties as important. For further particulars I would refer you to local summaries.

*Underground Bakehouses.*—Section 101, Factory and Workshops Act, 1901, enacts—That an underground bakehouse shall not be used as a bakehouse unless it was so used at the time of the passing of this Act, and those in use at the time of the passing of this Act shall not continue to be used after the 1st January, 1904, unless certified by the District Councils to be fit for that purpose.

## MIDWIVES ACT, 1902.

At the close of the year 1906, there were 634 Midwives, certified under the Act, practising within the area of the County Supervising Authority; of these, 595 were certified as being in *bona fide* practice for one year prior to the passing of the Act, and the remaining 39 on the grounds of holding the following various certificates of training:—

|   |    |
|---|----|
| Queen Charlotte's Hospital .. .. .              | 4  |
| Obstetrical Society of London .. .. .           | 24 |
| Glasgow Maternity Hospital .. .. .              | 1  |
| Central Midwives Board (by Examination) .. .. . | 10 |

From the above it will be seen that only 39, or 6.1 per cent. of the Midwives practising within the Administrative County are trained. It is obvious that within the next few years a very large number of the untrained Midwives, from one cause or another, will cease to practise, and it must be borne in mind that their places can only be taken by properly trained women.

Several theoretical and practical training centres have been established in the County in accordance with the Regulations of the Central Midwives Board, for women who intend sitting for the Board's Examination. The Local Supervising Authority make an annual grant towards the expenses of the establishment and maintenance of the theoretical training centres at the University College of South Wales and Monmouthshire, and the General Hospital, Swansea, and are thereby entitled to nominate 45 free students for the Cardiff Centre, and 18 for the Swansea Centre annually. Three other centres of instruction have been established within the Administrative County, viz. :—One at Merthyr Vale, one at Llantwit Major, and one at Pontardawe. Besides, four Certified Midwives, two at Merthyr, one at Dinas, and one at Pentre, and the Superintendent of the Maternity Department of the Queen's Nursing Institute at Cardiff, have been recognised by the Central Midwives Board as suitable persons to undertake the supervision and training of pupil midwives in the practical part of the work. With the above facilities for training, and the free Studentships offered by the Council, there should be, in a few years, a good supply of thoroughly trained midwives.

Nurse S. A. Richards, L.O.S., continued her work of inspection until May, when she resigned, and in June, Nurse M. Evans, L.O.S., was appointed in her place, and has carried on the work under the supervision of the Executive Officer.

During the year 929 inspections were made, as compared with 820 in 1905, and many special investigations were also carried out by the Executive Officer. Below is given in tabular form particulars of the conditions found to exist in each case at the time of inspection.

## MIDWIVES—PARTICULARS OF INSPECTION.

| No. on Roll of<br>Central Midwives<br>Board. | Number of<br>Inspections. | Number<br>Trained. | Washable<br>Dresses. | Dis-<br>infectants. | Record<br>Book. | Book of<br>Rules. | Case<br>Book. | Bag of<br>Appliances. |
|--|---------------------------|--------------------|----------------------|---------------------|-----------------|-------------------|---------------|-----------------------|
| 756  | 54                        | 54                 | 54                   | 54                  | 54              | 54                | 54            | 54                    |
| ..   | 468                       | ..                 | 468                  | 468                 | 468             | 468               | 468           | 468                   |
| ..   | 94                        | ..                 | 94                   | 94                  | 94              | 94                | 94            | ..                    |
| ..   | 41                        | ..                 | 41                   | 41                  | 41              | 41                | ..            | 41                    |
| ..   | 42                        | ..                 | ..                   | 42                  | 42              | 42                | 42            | 42                    |
| ..   | 52                        | ..                 | ..                   | 52                  | 52              | 52                | 52            | ..                    |
| ..   | 30                        | ..                 | 30                   | ..                  | 30              | 30                | 30            | ..                    |
| ..   | 21                        | ..                 | 21                   | 21                  | ..              | ..                | 21            | 21                    |
| ..   | 30                        | ..                 | 30                   | 30                  | ..              | ..                | 30            | ..                    |
| ..   | 17                        | ..                 | ..                   | ..                  | 17              | 17                | 17            | ..                    |
| ..   | 14                        | ..                 | 14                   | 14                  | ..              | ..                | ..            | 14                    |
| ..   | 4                         | ..                 | ..                   | ..                  | 4               | 4                 | 4             | 4                     |
| ..   | 3                         | ..                 | ..                   | ..                  | 3               | 3                 | ..            | ..                    |
| ..   | 9                         | ..                 | ..                   | 9                   | ..              | ..                | ..            | ..                    |
| ..   | 2                         | ..                 | 2                    | ..                  | ..              | ..                | ..            | ..                    |
| ..   | 2                         | ..                 | ..                   | ..                  | ..              | ..                | ..            | 2                     |
| ..   | 46                        | ..                 | ..                   | ..                  | ..              | ..                | ..            | ..                    |
| ..   | 929                       | 54                 | 754                  | 825                 | 805             | 805               | 812           | 646                   |

From the above Table it will be seen that the condition of the untrained Certified Midwives has greatly improved, and that most of them endeavour to carry out the rules laid down by the Central Midwives Board, but as 160 are illiterate, they cannot keep the necessary books themselves.

During the year, the returns sent by the Midwives to the Local Supervising Authority, as required by the Rules laid down by the Central Midwives Board, were as follows :—

|  |    |    |    |    |    |    |    |    |     |
|--|----|----|----|----|----|----|----|----|-----|
| Notifications of still-births  | .. | .. | .. | .. | .. | .. | .. | .. | 133 |
| Records of sending for medical help  | .. | .. | .. | .. | .. | .. | .. | .. | 396 |
| Notification of the death of the mother before the arrival of a medical practitioner | .. | .. | .. | .. | .. | .. | .. | .. | 1   |
| Total  | .. | .. | .. | .. | .. | .. | .. | .. | 430 |

The Local Supervising Authority pay 2s. 6d. for each case of Puerperal Fever notified to them by medical practitioners, and during the year 1906, 29 notifications were received. This is a very small proportion of the total number of cases notified to District Medical Officers of Health, but as it is compulsory for the medical practitioners to notify the District Medical Officer of Health but not the Local Supervising Authority, this accounts for the difference.

Each of the cases notified was investigated with a view of tracing the source of infection, and the midwife in attendance was suspended from practice until she had been thoroughly disinfected



A few complaints have been received, but no cases of malpractice, negligence, or misconduct of sufficiently serious a nature to report to the Central Midwives Board has occurred. The complaints received were investigated, and where necessary the midwife was suspended until she had complied with the Rules of the Central Midwives Board and the instructions of the Executive Officer.

The new Rules of the Central Midwives Board came into operation on the 1st May this year. Several important alterations and additions have been made, and a circular letter was sent to each Midwife, calling their attention thereto, and instructing them to obtain a copy without delay, and I am pleased to say that a great number have already done this.

## DAIRIES, COWSHEDS, AND MILKSHOPS ; AND VETERINARY INSPECTION OF DAIRY CATTLE.

Under the Dairies, Cowsheds, and Milkshops Order, it is unlawful for anyone to carry on the trade of cowkeeper, purveyor of milk, or dairyman, unless registered by the local authority. Local authorities may make regulations as to the lighting, ventilation, cleansing, minimum cubic space per cow, and the water supply, etc., of such premises. A register should be kept of dairies and milkshops in each District. Regulations have been made by all District Councils.

The inspection of these premises is supervised in a very lax way in most Districts. The importance of satisfactory hygienic surroundings to the health of the cow and the quality of the milk obtained therefrom is not fully appreciated. It is a subject, however, which merits more attention at the hands of all our Sanitary Authorities.

For the very scant information contained in most of the local reports, I would refer you to the District summaries. It is important to bear in mind that :—

- (1) All cowsheds should be cleansed once daily at least.
- (2) They should be limewashed at least twice a year ; and that
- (3) The minimum cubic space per cow in Urban Districts should be from 600 to 800 cubic feet.

With the improvement of the health of the cattle, the quality of the milk (the food supply of infants) would improve, and this would help to decrease the sustained high infant mortality, which has so long characterised Glamorgan.

The report of the Royal Commission appointed to inquire into the administrative procedures for controlling dangers to man through the use as food of the meat and milk of tuberculous animals, was presented to Parliament in 1898, so as to ensure the freedom of milk from tuberculous elements, they recommend that (*a*) notification of every disease of the udder be made compulsory on the owners of all cows, whether in private dairies or those in which the milk is offered for sale ; (*b*) local authorities (which have not done so already) should be required to adopt and enforce regulations as to cowsheds, dairies, etc. ; (*c*) no cowshed, byre, or shippin, other than those already registered, should be permitted in Urban Districts, within 100 feet of any dwelling-house. The following is also a very important recommendation, viz. :—“ That the condition of the attached cowsheds that shall warrant the registering of a dairy in a populous place, whether technically Urban or Rural, in future shall include the following—(1) an impervious

floor ; (2) a sufficient water supply for flushing ; (3) proper drainage ; (4) a depôt for the manure at a sufficient distance from the byres ; (5) a minimum cubic space as regards such byres of from 600—800 for each adult beast, varying according to the average weight of the animals ; (6) a minimum floor space of 50 feet to each adult beast ; and (7) sufficient light and ventilation. As regards these cubic contents, such space per cow should be provided as will, in view of the surrounding circumstances, secure reasonable ventilation without draught.”

As far as I have been able to ascertain, regulations under the Dairies, Cowsheds and Milkshop Orders, 1885, have been framed in all the Districts. Whether these regulations are enforced or not I am unable to say definitely, as the information contained in the District reports under this head is very meagre.

As regards the veterinary inspection of cattle, I am unable to speak authoritatively, but I have reason to believe that this is not carried out systematically—if at all—in any of the Districts.

It is my intention to deal, at an early date, with this matter, together with that of inspection of meat, etc., in a special report.

## SLAUGHTER HOUSES AND INSPECTION OF MEAT.

The following references are made by the Medical Officers in the District reports :—

*Aberavon*.—“ In August I had to make an unfavourable report on the discreditable state of the slaughter house. The yard was foul smelling, the slaughtering chamber very dirty, and a gut scraper followed his offensive trade in the adjoining chamber. . . .”

*Barry*.—“ The public abattoir has been visited daily, and found to be kept clean, and in compliance with the bye-laws. During the year there has been a large increase in the number of beasts and sheep killed. 12,689 animals were slaughtered as compared with 12,294 in 1905. These included 1,526 beasts, 8,277 sheep, 389 calves, and 2,479 pigs.

1,686lbs of meat, and 12 tons of potatoes were condemned and destroyed. . . .”

*Bridgend*.—Dr. Bulstrode holds “ that the accommodation afforded by the slaughter house is far from satisfactory, and some of the butchers complained on the subject, at the same time expressing a wish that a public abattoir, properly administered, should be provided.” As I have previously stated, with this opinion I coincide cordially.

*Briton Ferry*.—“ These have regularly been inspected by myself and by the Sanitary Inspector, and under close inspection they have been kept in as good a condition as circumstances permit, the Council not feeling disposed to call upon the owners to make very drastic alterations and improvements while the question of public slaughter house is under consideration.”

*Cowbridge*.—“ The slaughter house. This is not satisfactory. There is not sufficient accommodation for the number of butchers using it, or for the number of beasts slaughtered. It is a matter much to be regretted that the Council, in their efforts to provide a commodious and up-to-date abattoir, met with such opposition. I hope the scheme is not finally abandoned.”

*Caerphilly*.—"Town Ward. The slaughter houses are in the same state as heretofore, and if a public one is not erected, possibly some of our public-spirited butchers may erect one themselves. At present none are fit for the purpose."

*Glyncoed*.—"There are only two slaughter houses in your District, both of which are well kept, well ventilated, and periodically limewashed."

*Maesteg*.—"There are 14 licensed slaughter houses in the District; they are all private, and are periodically inspected, but, scattered as they are throughout the District, it is almost impossible to exercise a perfect supervision over them. Undoubtedly, a public slaughter house would be advantageous in many respects, as then it would be possible to make a regular inspection of the meat supply."

*Merthyr Borough*.—"There are 37 slaughter houses in the District, and 35 are in constant use. . . . The slaughter houses are all private, and scattered over the district, so that no systematic inspection of meat can be carried out. Appreciating this, and in view of the circumstance that, with two exceptions, none of the slaughter houses are up to modern standards, the Council during the year appointed a Committee to deal with the subject of a public abattoir.

I submitted a report as to what had been done in other towns, and the Borough Surveyor was instructed to look out for a site. He has already reported in favour of a site at Rhydycar, which, however, will only be attainable by means of a Provisional Order. This is as far as the matter has got at present, but the Council are fully alive to the evils of private slaughter houses, whereby dealers in diseased meat can carry on their nefarious trade in comparative seclusion."

*Mountain Ash*.—"An inspection of the slaughter houses was made weekly. . . . During the year the following goods were seized and condemned as unfit for human food:—4 boxes of herrings, 15lbs. of hake, and 1 bag of cockles. . . ."

*Ogmore and Garw*.—"Slaughter houses. These are constantly visited by myself and the Inspectors. On the whole they are kept very clean, but as they are situated among the houses they are always a menace to the health of the community. I strongly urge your Council to build public abattoirs, one in each Division, for I feel sure that the pressure of public opinion would drive all the butchers to slaughter in them. We constantly visited all meat shops in the District, and did not find any unsuitable meat for sale during the year."

*Oystermouth*.—"There are four slaughter houses in the District, of which two only are registered and licensed under the Public Health Act, and they are well ordered."

*Penarth*.—" . . . These have been inspected several times and found to be in a very satisfactory condition."

*Cowbridge Rural*.—" . . . Unlicensed premises are still in use at Llantwit Major and Brynna."

*Gelligaer and Rhigos*.—"There are eight slaughter houses, as a rule well kept, but two of them require constant supervision to prevent them being nuisances. One new slaughter house was built and licensed during the year; it is well equipped."



*Llantrisant and Llantwit Fardre.*—"As I have so many times pointed out, these are for the most part quite unfit for the purpose, being for the most badly paved and drained and inadequately supplied with water, air, and light, and often too near dwellings. Being scattered all over the District, it is impossible for the Inspector to see what kind of animal is slaughtered—whether diseased or not—and makes it practicable for unscrupulous vendors to pass on the unwary customer meat that may be anything but wholesome. A public abattoir would remove this serious possibility by affording an opportunity for all meats to be examined by a competent person before being placed on the market."

*Penybont.*—" . . . The state of the slaughter houses is sometimes better, sometimes worse ; but always unsatisfactory at Aberkenfig. The erection of a public abattoir is a prime necessity for Aberkenfig and neighbourhood."

*Neath Rural.*—" . . . In August I had to report on the dirty state of the slaughter house at Burrows Road, Skewen, and one at Resolven. . . . The slaughter house at Crynant was also in an unsatisfactory state, the inside very dirty and the outside requiring attention, but these matters were remedied on notices being served. In September last, a man was found selling a load of rotten fish in Skewen, the fish was seized by your Inspector, and the magistrate ordered to it be destroyed, and the seller was fined £5 and costs."

*Pontardawe East.*—" . . . The Council recently had circulars served on all occupiers of slaughter houses, warning them that under no circumstances should they slaughter any animal not intended for human food on their licensed premises."

## SEIZURE AND CONDEMNATION OF TUBERCULOUS MEAT.

In a letter issued in 1904 by the Secretary of the Local Government Board to the Clerks of District Councils it is stated :—

I am directed by the Local Government Board to state that they have had under consideration the Report of the Select Committee of the House of Commons on the Tuberculosis (Animals) Compensation Bill, 1904, in which reference is made (*a*) to the variety of practice alleged to exist with regard to the amount of tubercular deposit, the existence of which in a carcase is held to justify its total condemnation ; and (*b*) to complaints made by butchers as to the injury caused to them by their prosecution in open court for having tuberculous meat upon their premises.

With regard to (*a*) it appears to the Board most desirable that there should be uniformity in the practice of Meat Inspectors in dealing with the carcasses of cattle ; and they have already on two occasions, viz., in their Circular letters of the 11th March, 1899, and 6th September, 1901, set out, and urged the observance of, the principles laid down by the Royal Commission on Tuberculosis in their report of 1898 with respect to the degree of tubercular disease which should cause a carcase or part thereof to be seized. The Royal Commission stated as follows :—



“ We are of opinion that the following principles should be observed in the inspection of tuberculous carcases of cattle :—

- |   |   |   |
|---|---|---|
| <ul style="list-style-type: none"> <li>(a) When there is miliary tuberculosis of both lungs.</li> <li>(b) When tuberculous lesions are present on the pleura and peritoneum.</li> <li>(c) When tuberculous lesions are present in the muscular system, or in the lymphatic glands embedded in or between the muscles.</li> <li>(d) When tuberculous lesions exist in any part of an emaciated carcase.</li> </ul> | } | <p>The entire carcase and all the organs may be seized.</p>   |
| <ul style="list-style-type: none"> <li>(a) When the lesions are confined to the lungs and the thoracic lymphatic glands.</li> <li>(b) When the lesions are confined to the liver.</li> <li>(c) When the lesions are confined to the pharyngeal lymphatic glands.</li> <li>(d) When the lesions are confined to any combination of the foregoing, but are collectively small in extent</li> </ul>                  | } | <p>The carcase, if otherwise healthy, shall not be condemned, but every part of it containing tuberculous lesions shall be seized.”</p> |

The Board are of opinion that, at the present time, measures more stringent than those advocated by the Royal Commission are not called for ; but they would impress upon the Council the expediency and desirability of insisting upon those of their officers who are employed as Meat Inspectors acting in strict accordance with the principles thus laid down, if this is not already the case.

With regard to (b) the Select Committee express their view that, if a butcher who is in possession of tuberculous meat has notified the fact to the proper authority as soon as he could be reasonably expected to be aware of it, the case should not be taken into Court.

The Board understand that in some Districts the course recommended by the Committee is followed now, but where this is not so, the Board suggest that, having regard to the serious consequences which may result to a butcher from prosecution in open Court for being in possession of tuberculous meat, the Council should act upon the view expressed by the Select Committee in cases where such possession is voluntarily and promptly disclosed by the owner.”

The following is a paragraph from “ The First Interim Report of the Royal Commission appointed to inquire into the relation of Human and Animal Tuberculosis.”

“ We have very carefully compared the disease thus set up in the bovine animal by material of bovine origin, and so far we have found the one, both in its broad general feature and in its finer histological details, to be identical with the other. We have, so far, failed to discover any character by which we could distinguish the one from the other ; and our records contain accounts of the post-mortem examinations of bovine animals infected with tuberculosis material of human origin, which might be used as typical description of ordinary bovine tuberculosis.”

The decisions above arrived at are further strengthened in the Second Interim Report issued by the Royal Commission on Tuberculosis at the beginning of the present year (1907) wherein they reach the following important conclusion :—

“ We may briefly sum up the bearings of the results at which we have already arrived as follows :—

“ There can be no doubt but that in a certain number of cases the tuberculosis occurring in the human subject, especially in children, is the direct result of the introduction into the human body of the bacillus of bovine tuberculosis ; and there also can be no doubt that in the majority at least of these cases the bacillus is introduced through cows' milk. Cows' milk containing bovine tubercle bacilli is clearly a cause of tuberculosis and of fatal tuberculosis in man.

“ Of the sixty cases of human tuberculosis investigated by us, fourteen of the viruses belonged to Group I., that is to say, contained the bovine bacillus. If, instead of taking all these sixty cases, we confine ourselves to cases of tuberculosis in which the bacilli were apparently introduced into the body by way of the alimentary canal, the proportion of Group I. becomes very much larger. Of the total sixty cases investigated by us, twenty-eight possessed clinical histories indicating that in them the bacillus was introduced through the alimentary canal. Of these thirteen belonged to Group I. Of the nine cases in which cervical glands were studied by us three, and of the nineteen cases in which the lesions of abdominal tuberculosis were studied by us, ten belong to Group I.

“ These facts indicate that a very large proportion of tuberculosis contracted by ingestion is due to tubercle bacilli of bovine source.

“ A very considerable amount of disease and loss of life, especially among the young, must be attributed to the consumption of cows' milk containing tubercle bacilli. The presence of tubercle bacilli in cows' milk can be detected, though with some difficulty, if the proper means be adopted, and such milk ought never to be used as food. There is far less difficulty in recognising clinically that a cow is distinctly suffering from tuberculosis, in which case she may be yielding tuberculous milk. The milk coming from such a cow ought not to form part of human food, and indeed ought not to be used as food at all.

“ Our results clearly point to the necessity of measures more stringent than those at present enforced being taken to prevent the sale or the consumption of such milk.”

As the report of the Commission has emphasised the danger of the consumption of tuberculous milk and as our present legal powers are so limited, it is evident that Local Authorities should seek means whereby the public can obtain some sort of guarantee that tuberculous milk is no longer a marketable commodity. The solution of the difficulty may perhaps be arrived at by including as notifiable under a penalty, all diseases of the udder, and subsequently arranging for the veterinary inspection of the cows, the isolation of suspects, and the slaughtering of animals with tuberculous udders on payment of compensation.

Here it should be pointed out that the only powers that Sanitary Authorities possess, are contained in the Dairies, Cowsheds, and Milkshops Order, 1899, which enacts that “ when disease of the udder of a cow is certified by a veterinary surgeon to be tuberculous, the milk from such cow—

- (a) Shall not be mixed with other milk.
- (b) Shall not be used or sold for human food.

- (c) Shall not be sold or used as food of swine or other animals, unless and until it has been boiled."

There is nothing to prevent milk from cows suffering from generalised tuberculosis being used to any extent for human food.

## PUBLIC HEALTH LABORATORY.

This Laboratory was established by the Glamorgan County Council in 1899, but very soon afterwards it became under the control of a Joint Committee, consisting of members of the Health and Education Committees of the Corporation of the City of Cardiff, and of the Glamorgan County Council.

The Medical Officers of Health of the City of Cardiff and of the Glamorgan County Council respectively act as Directors of the Laboratory, having the use of it for any bacteriological or chemical investigation connected with their administrative work.

The systematic work carried out here, consisting of the regular chemical and bacteriological examination of all public water supplies, of samples of food, milk, meat, etc., and of specimens sent by medical men, is of the greatest importance and utility to the sanitary welfare of the City and the County. The special investigations undertaken, more particularly those relating to some cases of plague and suspected plague, anthrax, etc., have been of great practical value. The scheme by means of which Medical Practitioners in the County, on payment of a small fee, in cases of suspected Typhoid Fever, Diphtheria, Tuberculosis, etc., can have made an examination of blood or other material from patients believed to be suffering from these diseases respectively has been successful, but not to the extent I had anticipated.

I have received from many Medical Officers of Health and others testimony of their appreciation of work undertaken, and I have reason to believe that the ravages and spread of infectious diseases have been frequently prevented by the aids thus afforded.

Below is given a detailed account of all the work carried out at the Laboratory during the year by H. A. Schölberg, M.B., D.P.H., Bacteriologist, and J. H. Sugden, M.Sc. (Vict.), F.I.C., Assistant Bacteriologist and Chemist.

TABLE XXI.

### SPECIMENS EXAMINED :—

|   |    |    |    |    |    |    |    |    |    |     |
|---|----|----|----|----|----|----|----|----|----|-----|
| Suspected Diphtheria                      | .. | .. | .. | .. | .. | .. | .. | .. | .. | 477 |
| Suspected Typhoid Fever (Serum Diagnosis) | .. | .. | .. | .. | .. | .. | .. | .. | .. | 297 |
| Sputum for Tubercle Bacilli               | .. | .. | .. | .. | .. | .. | .. | .. | .. | 274 |
| „ „ „ (Notified Cases)                    | .. | .. | .. | .. | .. | .. | .. | .. | .. | 67  |
| Pus Examinations                          | .. | .. | .. | .. | .. | .. | .. | .. | .. | 32  |
| Diseased Meat                             | .. | .. | .. | .. | .. | .. | .. | .. | .. | 29  |
| Milk, (Bacteriological)                   | .. | .. | .. | .. | .. | .. | .. | .. | .. | 45  |
| „ for Tubercle Bacilli                    | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4   |
| Anthrax (Human)                           | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1   |
| „ (Bovine)                                | .. | .. | .. | .. | .. | .. | .. | .. | .. | 19  |
| Ankylostomiasis                           | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1   |
| Other Examinations                        | .. | .. | .. | .. | .. | .. | .. | .. | .. | 29  |

— 1,275

# PATHOLOGICAL AND CHEMICAL EXAMINATIONS :—

|                                      |     |
|--------------------------------------|-----|
| Urine Analyses .. .. .               | 108 |
| Morbid growths .. .. .               | 22  |
| Milk Examinations (Chemical) .. .. . | 34  |
| Examination of School Air .. .. .    | 47  |
| Other Examinations .. .. .           | 16  |

227

## SAMPLES OF WATER, SEWAGE, AND EFFLUENTS.

### DRINKING WATER :—

|   |     |
|---|-----|
| Bacteriological Examinations .. .. .    | 239 |
| Chemical (General Examinations) .. .. . | 145 |
| „ for Plumbo-Solvent Action .. .. .     | 44  |

### SEWAGE AND SEWAGE EFFLUENTS :—

|                                      |    |
|--------------------------------------|----|
| Bacteriological Examinations .. .. . | 58 |
| Chemical .. .. .                     | 76 |

|                                    |     |
|------------------------------------|-----|
| TRADE EFFLUENTS (Chemical) .. .. . | 101 |
|------------------------------------|-----|

663

Total .. .. . 2,165

TABLE XXII.

Comparisons of the Records of 1905 and 1906 :—

| Nature of Examination.              | 1905. | 1906. | Increase.    | Decrease. |
|-------------------------------------|-------|-------|--------------|-----------|
| Suspected Diphtheria .. .. .        | 291   | 477   | 186          | —         |
| Suspected Typhoid Fever .. .. .     | 169   | 297   | 128          | —         |
| Sputum for Tubercle Bacilli .. .. . | 369   | 341   | —            | 28        |
| Waters—Bacteriological .. .. .      | 280   | 239   | —            | 41        |
| „ Chemical .. .. .                  | 209   | 189   | —            | 20        |
| Diseased Meat .. .. .               | 20    | 29    | 9            | —         |
| Anthrax .. .. .                     | 9     | 20    | 11           | —         |
| Milk Examinations .. .. .           | 130   | 83    | —            | 47        |
| Sewages and Effluents.. .. .        | 222   | 235   | 13           | —         |
| Other Examinations .. .. .          | 331   | 255   | —            | 76        |
|                                     | 2,030 | 2,165 | 347          | 212       |
|                                     |       |       | Increase—135 |           |

The figures submitted in Table XXII. show an increase of 135 for the year 1906. This is due to the increase in the number of specimens of suspected Diphtheria and Typhoid Fever cases sent for examination.



Table XXIII. shows the contributions of Cardiff and the County towards the three infective diseases :  
Diphtheria, Typhoid Fever, and Pulmonary Tuberculosis.

TABLE XXIII.

| Source.       | Nature of Examination.              | No. of Positive Results. | No. of Negative Results. | Total. | Percentage of Positive Results. |
|---------------|-------------------------------------|--------------------------|--------------------------|--------|---------------------------------|
| Cardiff .. .. | Suspected Diphtheria .. ..          | 31                       | 47                       | 78     | 39·74                           |
| County .. ..  | „ „ .. ..                           | 78                       | 321                      | 399    | 19·75                           |
| Cardiff .. .. | Suspected Typhoid .. ..             | 23                       | 38                       | 61     | 37·70                           |
| County .. ..  | „ „ .. ..                           | 172                      | 64                       | 236    | 72·28                           |
| Cardiff .. .. | Suspected Pulmonary Tuberculosis .. | 124                      | 143                      | 267    | 46·44                           |
| County .. ..  | „ „ „ ..                            | 21                       | 53                       | 74     | 28·38                           |

Table XXIV. gives the number of Specimens received from Cardiff and the County respectively. The Samples from Swansea are included in the County figures. Sewages, Effluents and Trade Effluents are grouped under one heading—Sewages ; and Specimens include examinations other than those grouped under Waters or Sewages.

TABLE XXIV.

| Source.                     | Waters Examined. | Effluents Examined. | Specimens Examined. | Total. |
|-----------------------------|------------------|---------------------|---------------------|--------|
| Cardiff .. ..               | 128              | ..                  | 680                 | 808    |
| Administrative County .. .. | 300              | 235                 | 822                 | 1,357  |
|                             | 428              | 235                 | 1,502               | 2,165  |

TABLE XXV.

Classes held in 1906 :—

| Class.                                 | When held.             | Lecturer.                    | No. of Students. |
|--|------------------------|------------------------------|------------------|
| Bacteriology—Lectures and Practical .. | January to March ..    | Mr. Schölberg .. ..          | 2                |
| D.P.H. Revision Class—Bacteriology ..  | November .. ..         | „ .. ..                      | 1                |
| Clinical Bacteriology .. ..            | June to July .. ..     | „ .. ..                      | 3                |
| Chemistry—Lectures and Practical ..    | October to December .. | Mr. Sugden .. ..             | 6                |
| D.P.H. Revision—Chemistry .. ..        | November .. ..         | „ .. ..                      | 1                |
| D.P.H. Outdoor Sanitary Work ..        | Six months .. ..       | Dr. Walford and Dr. Williams | 7                |
| Sanitary Inspectors' Classes .. ..     | October to December .. | „ „ „                        | 14               |

The teaching work of the Public Health Laboratory has been successfully carried on during the year 1906.

With regard to the number of Specimens sent by Medical Practitioners, the figures submitted show a considerable increase on that recorded in the year 1905.

In addition to the work above stated, what may be considered the more important part of the Laboratory work, the Public Health teaching portion, has been fully maintained. The City and County have freely availed themselves of the opportunity of securing technical information on many questions of great importance.

A large number of samples of water were examined :—

- (1) To test the efficiency of various filters on a large scale.
- (2) For Plumbo-Solvent action and dissolved lead.

A considerable number of samples of air from Schools were also examined.

### HOUSING OF THE WORKING CLASSES.

*Buildings unfit for Human Habitation.*—Section 30 of the Housing of the Working Classes Act, 1890, Part II., reads :—“ It shall be the duty of the Medical Officer of Health of every District to represent to the Local Authority of that District any dwelling-house which appears to him to be in a state so dangerous or injurious to health as to be unfit for human habitation.”

Section 32 *ibid.* reads :—“ It shall be the duty of every Local Authority to cause to be made from time to time inspection of their District, with a view to ascertain whether any dwelling-house therein is in a state so dangerous or injurious to health as to be unfit for human habitation, and if on the representation of the Medical Officer, or of any officer of such Authority, or information given, any dwelling-house appears to them to be in such state, to forthwith take proceedings against the owner or occupier for closing the dwelling-house under the enactments set out in the Third Schedule to this Act.”

An application was made by the Pontardawe Rural District Council for the certificate of the County Council required for the adoption of Part III. of the Housing of the Working Classes Act, 1890, to enable the District Council to put in force the provisions of Part III. of the said Act throughout their District, A Committee having been appointed to report on the application, held a Local Inquiry at Ystalyfera on the 25th October, 1906, and reported as follows :—“ . . . . The Committee, having regard to the apparently small number of inhabitants to a house in the District of Ystalyfera, which may be assumed to be selected as the most crowded and insanitary part of the District, and to the fact that a good deal of building is being carried out by private enterprise, feel unable to report that there is a case made out for putting Part III. of the Housing of the Working Classes Act into force in the District, or that private enterprise is insufficient to enable the supply of house accommodation for this class to be carried out in due proportion to the growth of the population in that District.

It was stated that some houses now being built were in the adjacent County, but as they are available for the housing of persons working at Ystalyfera, the existence of such new houses is certainly an element, in the opinion of the Committee, that should be taken into consideration in deciding whether the rest of the District should be made liable for the expense of providing additional working class dwellings.”

A considerable activity has been shown generally in improving the houses and sanitary surroundings of the working classes. Nearly all the reports under review refer to the action taken under Part II. of the Housing of the Working Classes Act, 1890, and as far as can be gleaned from the reports the number of houses newly built, inspected, condemned, closed, repaired, rebuilt, etc., are tabulated below :—

TABLE XXVI.

| DISTRICT.                               | New Houses. | No. In-<br>spected. | No. Re-<br>presented as<br>Unfit. | No. Closed. | No. Re-<br>paired. | No. De-<br>molish'd. | No. Rebuilt. | Remarks.   |
|---|-------------|---------------------|-----------------------------------|-------------|--------------------|----------------------|--------------|--|
| URBAN.                                  |             |                     |                                   |             |                    |                      |              |  |
| Aberavon Borough ..                     | ..          | ..                  | ..                                | ..          | 1                  | 3                    | ..           | Number of new houses not given.  |
| Aberdare .. ..                          | ..          | ..                  | ..                                | ..          | ..                 | ..                   | ..           | No particulars are given.  |
| Barry .. ..                             | ..          | 1,320               | ..                                | ..          | ..                 | ..                   | ..           | Particulars of nuisances abated are given.   |
| Bridgend .. ..                          | 12          | 843                 | 1                                 | ..          | ..                 | ..                   | ..           | Particulars of nuisances abated are given.   |
| Briton Ferry.. ..                       | ..          | ..                  | ..                                | ..          | ..                 | ..                   | ..           | No particulars.  |
| Caerphilly .. ..                        | ..          | ..                  | ..                                | ..          | ..                 | ..                   | ..           | No particulars.  |
| Cowbridge Borough..                     | ..          | ..                  | ..                                | ..          | ..                 | ..                   | ..           | No particulars.  |
| Glyncorwg .. ..                         | ..          | ..                  | ..                                | 6           | 6                  | ..                   | ..           | No other particulars given.  |
| Maesteg .. ..                           | 144         | ..                  | ..                                | ..          | ..                 | ..                   | ..           | A list of nuisances abated is given.   |
| Margam .. ..                            | ..          | ..                  | ..                                | ..          | ..                 | ..                   | ..           | A detailed report is presented by the Inspector.   |
| Mountain Ash ..                         | 458         | ..                  | ..                                | 1           | ..                 | ..                   | ..           | No other particulars given.  |
| Merthyr Borough ..                      | 189         | 2,192               | 118                               | 72          | 41                 | ..                   | ..           | A further instalment of houses erected, and Part III of the Housing of the Working Classes Act, 1890, adopted. |
| Neath Borough ..                        | ..          | ..                  | ..                                | ..          | ..                 | ..                   | ..           |  |
| Ogmore and Garw ..                      | 102         | ..                  | ..                                | 4           | ..                 | ..                   | ..           | No information given.  |
| Oystermouth .. ..                       | ..          | ..                  | ..                                | ..          | ..                 | ..                   | ..           |  |
| Penarth .. ..                           | ..          | ..                  | ..                                | ..          | ..                 | ..                   | ..           | No information given.  |
| Pontypridd .. ..                        | 199         | 5,837               | ..                                | ..          | ..                 | 21                   | ..           | No information given.  |
| Porthcawl .. ..                         | ..          | ..                  | ..                                | ..          | ..                 | ..                   | ..           |  |
| Rhondda .. ..                           | 879         | 17,178              | ..                                | ..          | ..                 | ..                   | ..           |  |
| RURAL.                                  |             |                     |                                   |             |                    |                      |              |  |
| Cowbridge .. ..                         | 17          | ..                  | ..                                | ..          | ..                 | ..                   | ..           | No information given.  |
| Gelligaer and Rhigos                    | 234         | 1,458               | ..                                | ..          | ..                 | ..                   | ..           |  |
| Gower .. ..                             | ..          | ..                  | ..                                | ..          | ..                 | ..                   | ..           | No information given.  |
| Llandaff and Dinas Powis                | 169         | ..                  | ..                                | 1           | ..                 | ..                   | ..           |  |
| Llantrisant and Llan-<br>twit Fardre .. | ..          | 725                 | ..                                | ..          | ..                 | ..                   | ..           | No information given.  |
| Neath.. ..                              | ..          | ..                  | ..                                | ..          | ..                 | ..                   | ..           |  |
| Penybont .. ..                          | ..          | ..                  | ..                                | 5           | 8                  | ..                   | ..           | No information given.  |
| Pontardawe East ..                      | ..          | 856                 | ..                                | 1           | ..                 | ..                   | ..           |  |
| Pontardawe West ..                      | ..          | ..                  | ..                                | ..          | ..                 | ..                   | ..           | No information given.  |
| Swansea Rural :                         |             |                     |                                   |             |                    |                      |              |  |
| Llandilo-Talybont ..                    | ..          | 480                 | 56                                | 11          | 10                 | 7                    | 10           | No information given.  |
| Llangyfelach Division                   | ..          | 184                 | 17                                | 1           | 12                 | ..                   | ..           |  |

The Medical Officer of Health of Aberavon writes:—" . . . The subject that concerns me very much is the dampness of houses in Aberavon, not only of the older dwellings which were erected 50 and more years back, when building regulations did not exist, but also of comparatively new buildings, and I regret that nothing is being done to check the erection of houses which are bound to prove unhealthy. . . . To my mind it is morally wrong to allow damp and unhealthy dwellings to be put on the market, and it is quite as important to secure healthy houses for the inhabitants of the town as it is to insist on healthy food for them. . . . ."

The Medical Officer of Health of Briton Ferry writes:—" . . . The District generally consists of working class dwellings. A scheme has been prepared by the Surveyor for the erection of 51 houses for the housing of the working classes. Although the erection of workmen's dwellings has been going on at a fairly regular pace by private enterprise, there is undoubtedly room for still further dwellings, a large number of persons engaged in the various industries within the District are now living outside same. . . . ."

The Medical Officer of Health of Glyncofwrwg writes:—" . . . The average number of persons to each house being 4·8. During 1906, several cases of overcrowding were brought to my notice, especially so in the Abergwynfi portion of your District, where suitable houses for the working class are very scarce. I have taken steps to mitigate the evil, and to-day am pleased to inform you that overcrowding, which is so dangerous to the health of the community, has been practically brought to an end. During the year, I condemned six houses in Avon Hill as being unfit for human habitation. These were immediately closed, and have since been thoroughly repaired and their sanitary defects have been remedied. . . . ."

The Medical Officer of Health for Maesteg writes:—" During the year, 144 new houses were erected and occupied, as compared with 205 in 1905, and 283 in 1904. The majority have been built to accommodate the working class; at the same time, a number of better class houses have been erected throughout the District. . . . There is plenty of open space around the majority of the houses, and the surroundings are kept fairly clean. As in previous years, the Inspector and myself have made periodical visits to all the worse houses in the District, and have reported on their structural and sanitary condition, the outcome of which has been that several houses have been repaired and altered so as to render them more fit for human habitation; at the same time, there is still a number of houses in the District requiring necessary structural improvements. . . . ."

The Medical Officer of Health for Merthyr Borough writes:—" During the year, 118 houses were represented under Part II. of the Housing of the Working Classes Act. No unhealthy areas have been dealt with under Part I., as the Council consider that this part of the Act is too cumbersome and expensive. In this they are following the lead of such Corporations as Birmingham, who have had somewhat bitter experience of the enormous cost of putting this part of the Act into operation. The policy, therefore, for the past year has been to represent the individual houses as unfit for human habitation, and to get the owners to put them into thorough repair, or in the alternative, to close them. No buildings have been purchased under the Act as obstructive buildings. The Act gives power to purchase buildings, such as shut in a Court and prevent a free circulation of air, with a view to their demolition, and so throwing open the Court or slum area. In this District, however, the Courts are generally so small, and are shut in by houses that are so much more valuable than the houses in the Court, that the Council considered the results would not be commensurate with the expense. . . . ."



The Medical Officer of Health for Mountain Ash writes :—" . . . . The number of houses certified fit for habitation during the year was 458, an increase of 60 on the previous year ; one celler was condemned and closed as unfit for habitation. . . . "

The Medical Officer of Health for Neath writes :—" . . . . As noted in my report of last year, the supply of houses for the better-paid artizan has considerably increased in late years. Overcrowding is diminishing, and it is satisfactory to see that such houses as those in the older part of Brookdale Street, most of which up to within a few months ago contained, besides lodgers, at least three families, are rapidly becoming tenantless. There is still a pressing need for cheaper houses, and the completion of a further instalment of the Corporation houses at Mount Pleasant, making 26 in all, will only go a slight way toward supplying the wants. It is to be hoped that the remainder of the hundred houses will soon be in course of erection. . . . . The cry at the present day is all for great open spaces for our town dwellers, and, however advantageous these must be, the most pressing need is for complete *circulation* of the air in the small spaces about the dwellings, which can never take place in the present style approved by private builders. . . . . "

The Medical Officer of Health for Ogmore and Garw writes :—" . . . . The general condition of the District is improving. With the completion of the Garw Sewerage Scheme, and the constant increase in the housing accommodation, the whole aspect of the District is greatly improving. Private enterprise is coping with the housing question, and it is now a rare occurrence to find a case of overcrowding. . . . "

The Medical Officer of Health for Oystermouth writes :—" . . . . The modern demand for small and cheap houses call for an early revision of those obstructive bye-laws, which at present forbid the working man and the capitalist from building his cottage or his bungalow of wood or iron, brick or cement, even though the structure conform to every sanitary condition, simply on the score of the thickness or thinness of its walls. These lighter and healthier houses ought to be widely encouraged, to counteract the prevailing congestion of population in streets and rows, and to give families the advantages of natural surroundings. . . . . "

The Medical Officer of Health for Gelligaer and Rhigos writes :—" . . . . There is no leisured or unoccupied class in this District ; practically speaking, the inhabitants are of the working classes, and almost the whole of the houses are cottages, mostly of the five-roomed type. . . . There are no slums in the District, and no cellar dwellings, in the legal sense of the term, although in three or four instances there are small houses occupied partly below the level of the adjoining street. . . . . There are only, I think, six back-to-back houses in the District ; and action is being taken in respect of them at the present time. The housing question, therefore, only presents itself here in the form of a certain amount of overcrowding, more especially at Tirphil and Bedlinog, while there is a great demand for houses at Fochriw. A hundred houses, built by the Council at Tirphil, would relieve the situation, and would be at once occupied. . . . "

The Medical Officer of Health for Llandaff and Dinas Powis writes :—" The usual supervision of the cottages was carried out as to water supply, drainage, and ventilation. . . . . One house was closed as unfit for human habitation, but some others were vacated through disrepair. . . . . There are few empty houses in any part of the District. . . . . "

The Medical Officer of Health for Pontardawe East Division writes :—" . . . . Owing to complaints made as to the insanitary condition of a great many dwellings, the Council resolved to make an application to the County Council for a certificate to enable them to put in force Part III. of the Housing of the

Working Classes Act, 1890, throughout the District. As the circumstances referred to Ystalyfera, the Medical Officer was requested to prepare a report on that locality. On October 25th, 1906, a Committee, consisting of County Councillors Sir J. T. D. Llewelyn, Bart., T. H. Morris, and D. J. Thomas, held an Inquiry at Ystalyfera. . . . After hearing other evidence on both sides from several members of the District Council, the Committee reported:—‘ That having regard to the apparently small number of inhabitants to a house in the locality of Ystalyfera, which may be assumed to be selected as the most crowded and insanitary part of the District, and to the fact that a great deal of building is being carried out by private enterprise, feel unable to report that there is a case made out for putting Part III. of the Housing of the Working Classes Act into force in the District, or that private enterprise is insufficient to enable the supply of house accommodation for this class to be carried out in due proportion to the growth of the population in that District.’ ”

The Medical Officer of Health of Llandilo-Talybont writes:—“ 56 houses were reported to your Council during 1906 as unfit for human habitation, and of these, seven have been demolished, 11 closed, and 10 rendered fit for habitation ; 10 are in process of repair, and 18 have not yet been attended to. Two houses reported unfit in 1905 were repaired in 1906.”

### ELEMENTARY SCHOOLS.

I have already reported (1903) at some length on the Sanitary Control of Schools, and as I think it is desirable to deal in detail with the medical examinations of School Children, I propose to make it the subject of a special report to the Education Committee when the time is ripe for doing so, for at present it is uncertain when the medical inspection of children will become obligatory, but that it will become so at an early date, there cannot be any doubt.

As the result of the administration of the Education Acts by the County Education Committee, considerable improvements have been effected in the sanitary condition of many of the Elementary Schools. Much necessary work still remains to be done, not only in regard to School sanitation, but in dealing with such subjects as :—

- (a) The medical inspection of scholars.
- (b) The training of mentally and physically defective children.
- (c) The efficient disinfection of Schools.
- (d) The examination of Teachers as to their health and bodily strength, and
- (e) The training of School Teachers in the laws of health.

The question of School closure on account of infectious disease requires much consideration, and opinions differ as to its value, especially in the case of Measles.

As a public health precaution, School closure in the case of Measles, if delayed until the attendance is materially affected is but of little good.

During the year, special reports were made on several subjects, including :—

- (a) The disinfection of Schools, and
- (b) The drafting of Teachers from infected to non-infected Schools.

Copies of these are given below :—

*The Disinfection of Schools.*

The disinfection of Schools after outbreaks of infectious disease amongst the scholars should be insisted upon, and ought to include—

- I. The Schoolroom, cloak rooms, blackboards, slates, sponges, pencils, and pens, books, ink wells, &c.
- II. Lavatory basins, urinals, latrines, and drains.

The disinfection of the Schoolrooms may be effected by—

- I. Fumigation by formalin, sulphur, or chlorine.
- II. The spraying of the walls with a disinfecting solution.

I. FUMIGATION is either done by gasifying paraform tablets in the proportion of 25 tablets per 1,000 cubic feet of air space, in the Alformant Lamp (all openings being first of all thoroughly sealed and kept sealed for 24 hours afterwards), or by burning roll sulphur—1½ to 3 pounds per 1,000 cubic feet of air space, after sealing the room (as above). After fumigation has been carried out, the windows and doors should be kept open for some hours and the rooms thoroughly flushed with air. Sulphur Dioxide gas, however, being much heavier than air, diffuses very slowly, and its bactericidal effect is far from satisfactory, and it corrodes metals.

*Chlorine gas*, generated by the action of an acid on commercial bleaching powder, may also be used, but the objections to it are the same as apply to Sulphur Dioxide gas.

II. SPRAYING OF WALLS, &c.—This may be effectively carried out by means of a sprayer such as the Equifex and a solution of Kerol (1 in 140), Cyllin (1 in 160), or Corrosive Sublimate (1 in 1,000), but as the latter is a very poisonous compound, and it also acts injuriously on metallic surfaces, the former are much the better to use. Their bactericidal power has been clearly demonstrated by competent authorities, and they are non-poisonous.

SPRAYING, when properly done, is, in my opinion, a much more satisfactory method of disinfecting rooms than fumigation, as all surfaces, benches, desks, floors, crevices, &c., are thoroughly exposed to the action of the disinfectant.

SLATES, SPONGES, &c., should be thoroughly immersed in the disinfecting solution, and allowed to remain in contact with it for at least an hour, and then washed in clean water.

BOOKS, if well worn, or of little value, are best burnt, as their thorough disinfection is a matter of great difficulty. If, however, the books are of value, they are best disinfected by opening them out and tying their two covers back, and spreading their leaves out as much as possible, and they should then be exposed to formalin gas generated by the Alformant Lamp, in a cupboard, and the cupboard would also be disinfected at the same time.

LAVATORY BASINS, URINALS, CLOSETS, AND DRAINS may be disinfected thoroughly by means of a solution of Kerol or Chloros. A large quantity of the solution should be prepared and sufficient water added to flush the whole of the drain.

In all cases thorough cleansing should follow disinfection, and limewashing of urinals and closet walls with hot lime.

*The drafting of Teachers from infected to non-infected Schools.*

In accordance with your instructions I beg to report as follows upon the above question. It is occasionally deemed advisable to recommend the closure of Schools on account of the prevalence among children attending the same of certain Infectious Diseases, with a view to preventing their spread. These diseases include Small Pox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, Epidemic Influenza, Skin and Parasitic Diseases, Ophthalmia, &c.

Teachers, especially the younger ones, as well as scholars, though not to an equal extent, suffer from these diseases. It is therefore expedient that Teachers from Schools infected with prevalent or epidemic diseases, and which have been closed on this account, should not be indiscriminately transferred to non-infected Schools, that is, they should not be transferred until the Education Committee are satisfied on the following points, namely, that—

1. The Teachers themselves are not suffering from the disease in its (a) incubative, or (b) active form.
2. The Teachers do not live in infected houses.
3. The incubation period of the disease in question has elapsed.
4. They are not likely to be the cause of spreading the disease by means of their infected clothing, etc.

I am, therefore, of the opinion that there is a danger of disease being conveyed by Teachers from a School that has been closed on account of Infectious Disease taking up duties in some other School. On the other hand, I am not of the opinion that these Teachers should be left unemployed indefinitely, but only for such a period as the Education Committee, after enquiry, may think proper.



## RAINFALL.

The Rainfall is closely connected with the surface features, and the contour of the ground determines in a remarkable manner its relative amount in any given locality in the County, and it is found to be very different in amount, even at points only a few miles apart. The following measurements at different elevations are given in the various Reports, and in the order of the elevations at which they were taken, beginning at the lowest.

## BARRY.

Taken at Biglis Pumping Station.

Elevation, 20 feet.

Diameter of Funnel, 5 inches,

| MONTH             | Total Depth<br>in inches. | Greatest Fall in 24 hours. |       | No. of Days on<br>which 0·01 inches<br>or more fell. |
|-------------------|---------------------------|----------------------------|-------|--|
|                   |                           | Depth.                     | Date. |  |
| January .. .. .   | 5·09                      | 0·62                       | 12th  | 22   |
| February .. .. .  | 2·90                      | 0·56                       | 16th  | 23   |
| March .. .. .     | 2·30                      | 0·96                       | 10th  | 15   |
| April .. .. .     | 1·41                      | 0·40                       | 24th  | 13   |
| May .. .. .       | 3·66                      | 0·91                       | 26th  | 22   |
| June .. .. .      | 2·13                      | 0·90                       | 28th  | 10   |
| July .. .. .      | 0·84                      | 0·25                       | 13th  | 10   |
| August .. .. .    | 2·83                      | 0·66                       | 1st   | 19   |
| September .. .. . | 1·14                      | 0·42                       | 14th  | 6  |
| October .. .. .   | 5·59                      | 1·35                       | 1st   | 24   |
| November .. .. .  | 3·55                      | 0·85                       | 20th  | 16   |
| December .. .. .  | 2·20                      | 0·30                       | 4th   | 16   |
| Total .. .. .     | 33·64                     |                            |       | 196  |

The following is the Rainfall at Biglis for the past 18 years—stated in inches :—

| MONTH.       | 1889  | 1890  | 1891  | 1892  | 1893  | 1894  | 1895  | 1896  | 1897  | 1898  | 1899  | 1900  | 1901  | 1902  | 1903  | 1904  | 1905  | 1906  |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| January ..   | 1·03  | 2·96  | 2·47  | 2·34  | 1·76  | 2·28  | 3·32  | 0·84  | 1·55  | 0·89  | 4·25  | 5·02  | 1·78  | 2·19  | 4·54  | 4·07  | 1·00  | 5·09  |
| February ..  | 2·12  | 0·41  | 0·47  | 2·69  | 4·59  | 3·33  | 0·12  | 0·50  | 4·37  | 1·35  | 3·05  | 5·41  | 0·86  | 0·90  | 1·93  | 4·66  | 0·93  | 2·90  |
| March ..     | 2·93  | 1·48  | 2·13  | 0·99  | 0·54  | 2·70  | 3·26  | 3·59  | 2·95  | 1·35  | 0·74  | 0·89  | 1·57  | 2·12  | 4·23  | 2·51  | 4·65  | 2·30  |
| April ..     | 3·61  | 2·15  | 1·37  | 2·83  | 0·13  | 1·47  | 1·74  | 0·58  | 3·16  | 1·05  | 3·54  | 1·44  | 3·56  | 1·83  | 2·55  | 1·24  | 2·19  | 1·41  |
| May ..       | 0·05  | 1·79  | 3·24  | 1·25  | 2·10  | 1·64  | Nil.  | 0·18  | 0·83  | 2·60  | 1·78  | 1·29  | 0·59  | 2·78  | 2·53  | 2·65  | 0·13  | 3·66  |
| June ..      | 0·50  | 2·69  | 1·55  | 1·73  | 0·56  | 2·52  | 1·27  | 2·04  | 2·60  | 1·12  | 0·93  | 1·74  | 2·72  | 2·70  | 2·79  | 0·67  | 3·47  | 2·13  |
| July ..      | 2·66  | 3·45  | 2·67  | 1·98  | 4·76  | 4·04  | 4·35  | 1·39  | 1·24  | 0·70  | 2·83  | 1·01  | 2·28  | 2·00  | 4·73  | 4·61  | 1·70  | 2·84  |
| August ..    | 3·66  | 3·19  | 7·47  | 3·87  | 2·09  | 5·33  | 3·79  | 3·33  | 6·48  | 3·40  | 1·77  | 3·18  | 2·86  | 3·28  | 5·18  | 3·16  | 3·32  | 2·83  |
| September .. | 1·96  | 1·12  | 3·26  | 3·86  | 2·47  | 2·57  | 0·80  | 7·29  | 4·80  | 2·35  | 2·55  | 0·82  | 3·01  | 2·91  | 2·80  | 2·87  | 1·41  | 1·14  |
| October ..   | 2·96  | 1·97  | 5·75  | 2·31  | 5·74  | 4·40  | 4·71  | 3·89  | 1·27  | 5·46  | 2·83  | 5·53  | 2·96  | 3·00  | 8·96  | 2·08  | 1·91  | 5·59  |
| November ..  | 1·91  | 3·85  | 4·34  | 2·52  | 2·08  | 4·70  | 3·39  | 0·68  | 1·53  | 3·47  | 2·19  | 5·03  | 0·89  | 3·89  | 2·49  | 3·11  | 3·68  | 3·55  |
| December ..  | 3·09  | 1·36  | 6·54  | 3·10  | 3·08  | 3·87  | 3·72  | 4·90  | 4·44  | 3·02  | 2·55  | 5·29  | 5·63  | 3·23  | 3·36  | 2·66  | 1·96  | 2·20  |
| Total ..     | 26·48 | 26·42 | 41·26 | 29·47 | 29·90 | 38·85 | 30·47 | 29·21 | 35·22 | 26·76 | 29·01 | 36·65 | 28·71 | 30·83 | 46·09 | 34·29 | 26·35 | 33·64 |

Average fall for 18 years—32·22 inches.

## OYSTERMOUTH.

Taken at Newton.

Elevation, 280 feet.

Diameter of funnel, 5 inches.

| MONTH.            | Total Depth<br>in inches. | Greatest Fall in 24 hours. |      | No. of Days on<br>which 0·01 inches or<br>more fell. |
|-------------------|---------------------------|----------------------------|------|--|
|                   |                           | Depth.                     | Date |  |
| January .. .. .   | 8·11                      | 1·10                       | 15th | 24   |
| February .. .. .  | 3·84                      | 0·50                       | 16th | 24   |
| March .. .. .     | 3·16                      | 1·16                       | 10th | 14   |
| April .. .. .     | 1·55                      | 0·46                       | 24th | 11   |
| May .. .. .       | 5·49                      | 1·10                       | 5th  | 20   |
| June .. .. .      | 2·09                      | 0·67                       | 23rd | 10   |
| July .. .. .      | 2·59                      | 0·81                       | 22nd | 15   |
| August .. .. .    | 4·59                      | 0·95                       | 2nd  | 17   |
| September .. .. . | 2·10                      | 0·87                       | 13th | 8  |
| October .. .. .   | 8·02                      | 1·87                       | 1st  | 28   |
| November .. .. .  | 4·48                      | 0·63                       | 16th | 20   |
| December .. .. .  | 3·87                      | 0·58                       | 10th | 20   |
| Total .. .. .     | 49·89                     |                            |      | 211  |

## LLANGYFELACH.

Taken at Glanravan, Morriston.

Elevation, 53·2 feet.

Diameter of funnel, 5 inches.

| MONTH.            | Total Depth<br>in inches. | Greatest Fall in 24 hours. |       | No. of Days on<br>which 0·01 inches or<br>more fell. |
|-------------------|---------------------------|----------------------------|-------|--|
|                   |                           | Depth.                     | Date. |  |
| January .. .. .   | 8·87                      | 0·94                       | 5th   | 25   |
| February .. .. .  | 4·52                      | 0·64                       | 16th  | 23   |
| March .. .. .     | 3·70                      | 1·25                       | 10th  | 13   |
| April .. .. .     | 1·63                      | 0·56                       | 24th  | 11   |
| May .. .. .       | 7·72                      | 1·81                       | 5th   | 20   |
| June .. .. .      | 2·75                      | 1·07                       | 23rd  | 11   |
| July .. .. .      | 2·10                      | 0·45                       | 22nd  | 13   |
| August .. .. .    | 5·28                      | 1·40                       | 1st   | 17   |
| September .. .. . | 2·12                      | 0·90                       | 13th  | 9  |
| October .. .. .   | 9·25                      | 1·32                       | 1st   | 23   |
| November .. .. .  | 5·65                      | 1·63                       | 20th  | 17   |
| December .. .. .  | 4·20                      | 0·56                       | 25th  | 19   |
| Total .. .. .     | 57·79                     |                            |       | 201  |

Average for 15 years, 46·62 inches.

## LLANDILO-TALYBONT.

Taken at Penllergaer.

Elevation, 240 feet.

Diameter of funnel, 5 inches.

| MONTH.            | Total Depth<br>in inches. | Greatest Fall in 24 hours. |       | No. of Days<br>on which 0·01 inches or<br>more fell. |
|-------------------|---------------------------|----------------------------|-------|--|
|                   |                           | Depth.                     | Date. |  |
| January .. .. .   | 8·18                      | 1'04                       | 5th   | 26   |
| February .. .. .  | 4'34                      | 0'55                       | 16th  | 23   |
| March .. .. .     | 3'87                      | 1'12                       | 10th  | 16   |
| April .. .. .     | 1'60                      | 0'55                       | 24th  | 13   |
| May .. .. .       | 8'41                      | 1'98                       | 13th  | 23   |
| June .. .. .      | 3'70                      | 0'90                       | 23rd  | 11   |
| July .. .. .      | 2'47                      | 0'40                       | 21st  | 13   |
| August .. .. .    | 5'71                      | 1'14                       | 1st   | 17   |
| September .. .. . | 2'01                      | 0'87                       | 13th  | 16   |
| October .. .. .   | 9'77                      | 1'26                       | 1st   | 26   |
| November .. .. .  | 5'58                      | 1'47                       | 20th  | 19   |
| December .. .. .  | 4'60                      | 0'48                       | 25th  | 20   |
| Total .. .. .     | 60'24                     |                            |       | 217  |

Average annual rainfall at Penllergaer, 1896-1905—46·97 ins.

Greatest .. .. . 61·84 ins. in 1903.

Least .. .. . 39'27 ins. in 1902.

## PONTARDAWE EAST.

Taken at Ystalyfera.

Elevation, 240 feet.

Diameter of funnel, 5 inches.

| MONTH.            | Total Depth<br>in inches. | Greatest Fall in 24 hours. |       | No. of Days<br>on which 0·01 inches or<br>more fell. |
|-------------------|---------------------------|----------------------------|-------|--|
|                   |                           | Depth.                     | Date. |  |
| January .. .. .   | 9'82                      | 1'35                       | 24th  | 24   |
| February .. .. .  | 6'58                      | 1'03                       | 9th   | 22   |
| March .. .. .     | 4'51                      | 1'31                       | 10th  | 13   |
| April .. .. .     | 1'44                      | 0'39                       | 24th  | 12   |
| May .. .. .       | 7'17                      | 2'06                       | 5th   | 21   |
| June .. .. .      | 4'14                      | 1'33                       | 23rd  | 12   |
| July .. .. .      | 2'26                      | 0'50                       | 13th  | 15   |
| August .. .. .    | 6'42                      | 1'18                       | 2nd   | 18   |
| September .. .. . | 1'86                      | 0'71                       | 13th  | 10   |
| October .. .. .   | 11'39                     | 1'41                       | 2nd   | 24   |
| November .. .. .  | 6'71                      | 1'21                       | 20th  | 20   |
| December .. .. .  | 4'96                      | 0'76                       | 25th  | 20   |
| Total .. .. .     | 67'26                     |                            |       | 211  |

## PONTYPRIDD.

Taken at Maes-y-dderwen.

Elevation, 425 feet.

Diameter of funnel, 5 inches.

| MONTH.            | Total Depth<br>in inches. | Greatest Fall in 24 hours. |       | No. of Days<br>on which 0·01 inches or<br>more fell. |
|-------------------|---------------------------|----------------------------|-------|--|
|                   |                           | Depth.                     | Date. |  |
| January .. .. .   | 9·41                      | 1·00                       | 17th  | 24   |
| February .. .. .  | 4·68                      | 0·80                       | 15th  | 23   |
| March .. .. .     | 2·86                      | 0·50                       | 7th   | 14   |
| April .. .. .     | 1·43                      | 0·25                       | 29th  | 12   |
| May .. .. .       | 6·05                      | 1·41                       | 5th   | 20   |
| June .. .. .      | 2·33                      | 0·72                       | 27th  | 7  |
| July .. .. .      | 2·42                      | 0·56                       | 13th  | 16   |
| August .. .. .    | 2·58                      | 1·06                       | 23rd  | 16   |
| September .. .. . | 0·11                      | 0·10                       | 5th   | 2  |
| October .. .. .   | 9·39                      | 1·40                       | 1st   | 25   |
| November .. .. .  | 3·37                      | 1·00                       | 21st  | 18   |
| December .. .. .  | 2·64                      | 0·40                       | 25th  | 19   |
| Total .. .. .     | 47·17                     |                            |       | 196  |

## TREHERBERT, RHONDDA.

Taken at Tynywaun Waterworks.

Elevation, 801 feet.

Diameter of funnel, 5 inches.

| MONTH.            | Total Depth<br>in inches. | Greatest Fall in 24 hours. |       | No. of Days on<br>which 0·01 inches or<br>more fell. |
|-------------------|---------------------------|----------------------------|-------|--|
|                   |                           | Depth.                     | Date. |  |
| January .. .. .   | 15·75                     | 1·47                       | 24th  | 26   |
| February .. .. .  | 7·66                      | 0·87                       | 9th   | 22   |
| March .. .. .     | 6·77                      | 1·52                       | 10th  | 16   |
| April .. .. .     | 1·65                      | 0·49                       | 24th  | 13   |
| May .. .. .       | 7·93                      | 1·54                       | 5th   | 22   |
| June .. .. .      | 3·20                      | 0·70                       | 28th  | 15   |
| July .. .. .      | 2·34                      | 0·37                       | 22nd  | 20   |
| August .. .. .    | 6·88                      | 1·59                       | 1st   | 19   |
| September .. .. . | 2·53                      | 1·30                       | 14th  | 10   |
| October .. .. .   | 13·31                     | 1·73                       | 2nd   | 27   |
| November .. .. .  | 8·18                      | 1·28                       | 20th  | 21   |
| December .. .. .  | 5·09                      | 6·9                        | 5th   | 24   |
| Total .. .. .     | 81·20                     |                            |       | 225  |



## MERTHYR.

Taken at Pentwyn Reservoir. Elevation, 1,120 feet above sea level.

| MONTH.            | Total Depth<br>in inches. | Greatest Fall in 24 hours. |       | No. of Days<br>on which 0·01 inches or<br>more fell. |
|-------------------|---------------------------|----------------------------|-------|--|
|                   |                           | Depth.                     | Date. |  |
| January .. .. .   | 9'93                      | 1'05                       | 5th   | 27   |
| February .. .. .  | 5'36                      | 0'70                       | 16th  | 24   |
| March .. .. .     | 4'71                      | 0'98                       | 10th  | 16   |
| April .. .. .     | 1'59                      | 0'47                       | 24th  | 15   |
| May .. .. .       | 1'15                      | 1'15                       | 3rd   | 23   |
| June .. .. .      | 3'19                      | 0'71                       | 28th  | 13   |
| July .. .. .      | 2'19                      | 0'56                       | 13th  | 17   |
| August .. .. .    | 4'69                      | 1'17                       | 1st   | 20   |
| September .. .. . | 2'06                      | 0'61                       | 13th  | 9  |
| October .. .. .   | 9'55                      | 1'31                       | 1st   | 26   |
| November .. .. .  | 6'90                      | 0'96                       | 20th  | 22   |
| December .. .. .  | 4'64                      | 0'77                       | 5th   | 24   |
| Total .. .. .     | 59'79                     |                            |       | 236  |

## MERTHYR.

Taken at Lower Neuadd Reservoir. Elevation, 1,462 feet.

| MONTH.            | Total Depth<br>in inches. | Greatest Fall in 24 hours. |       | No. of Days<br>on which 0·01 inches or<br>more fell. |
|-------------------|---------------------------|----------------------------|-------|--|
|                   |                           | Depth.                     | Date. |  |
| January .. .. .   | 10'69                     | 1'30                       | 24th  | 29   |
| February .. .. .  | 5'70                      | 0'85                       | 9th   | 21   |
| March .. .. .     | 5'14                      | 1'32                       | 10th  | 17   |
| April .. .. .     | 1'70                      | 0'51                       | 24th  | 13   |
| May .. .. .       | 5'27                      | 0'72                       | 2nd   | 22   |
| June .. .. .      | 3'52                      | 0'86                       | 28th  | 13   |
| July .. .. .      | 2'10                      | 0'36                       | 13th  | 17   |
| August .. .. .    | 5'40                      | 0'93                       | 1st   | 18   |
| September .. .. . | 2'18                      | 0'71                       | 13th  | 10   |
| October .. .. .   | 9'16                      | 1'74                       | 1st   | 27   |
| November .. .. .  | 8'15                      | 0'96                       | 6th   | 23   |
| December .. .. .  | 4'89                      | 1'00                       | 5th   | 17   |
| Total .. .. .     | 63'90                     |                            |       | 227  |

## RHONDDA.

Taken at Maerdy.

Elevation, 1,255 feet.

| MONTH.            | Total Depth<br>in inches. | Greatest Fall in 24 hours. |       | No. of Days on<br>which 0·01 inches or<br>more fell. |
|-------------------|---------------------------|----------------------------|-------|--|
|                   |                           | Depth.                     | Date. |  |
| January .. .. .   | 10·82                     | 1'02                       | 17th  | 22   |
| February .. .. .  | 4'94                      | 1'02                       | 16th  | 14   |
| March .. .. .     | 3'57                      | 1'10                       | 10th  | 11   |
| April .. .. .     | 1'61                      | 1'00                       | 27th  | 3  |
| May .. .. .       | 5'88                      | 1'09                       | 3rd   | 15   |
| June .. .. .      | 3'39                      | 0'85                       | 28th  | 9  |
| July .. .. .      | 2'00                      | 0'40                       | 22nd  | 8  |
| August .. .. .    | 6'38                      | 1'19                       | 1st   | 13   |
| September .. .. . | 2'18                      | 1'02                       | 14th  | 4  |
| October .. .. .   | 11'77                     | 1'34                       | 5th   | 18   |
| November .. .. .  | 5'41                      | 1'19                       | 20th  | 14   |
| December .. .. .  | 1'99                      | 1'09                       | 11th  | 5  |
| Total .. .. .     | 59'94                     |                            |       | 136  |

## RHONDDA.

Taken at the Hospital, Ystrad.

Elevation, 590 feet.

| MONTH.            | Total Depth<br>in inches. | Greatest Fall in 24 hours. |       | No. of Days on<br>which 0·01 inches or<br>more fell. |
|-------------------|---------------------------|----------------------------|-------|--|
|                   |                           | Depth.                     | Date. |  |
| January .. .. .   | 10·82                     | 1'02                       | 17th  | 22   |
| February .. .. .  | 4'94                      | 1'02                       | 16th  | 14   |
| March .. .. .     | 3'57                      | 1'10                       | 10th  | 11   |
| April .. .. .     | 1'61                      | 1'00                       | 27th  | 3  |
| May .. .. .       | 5'88                      | 1'09                       | 2nd   | 15   |
| June .. .. .      | 3'39                      | 0'85                       | 28th  | 9  |
| July .. .. .      | 2'00                      | 0'40                       | 22nd  | 8  |
| August .. .. .    | 6'38                      | 1'19                       | 1st   | 13   |
| September .. .. . | 2'18                      | 1'02                       | 14th  | 4  |
| October .. .. .   | 11'77                     | 1'34                       | 5th   | 18   |
| November .. .. .  | 5'41                      | 1'19                       | 20th  | 14   |
| December .. .. .  | 1'99                      | 1'09                       | 11th  | 5  |
| Total .. .. .     | 59'94                     |                            |       | 136  |

## MARGAM.

## Summary of Rainfall during the year.

|              |    |    |    |    |    |    | inches.      |
|--------------|----|----|----|----|----|----|--------------|
| January ..   | .. | .. | .. | .. | .. | .. | 7'42         |
| February ..  | .. | .. | .. | .. | .. | .. | 3'86         |
| March ..     | .. | .. | .. | .. | .. | .. | 3'60         |
| April ..     | .. | .. | .. | .. | .. | .. | 1'43         |
| May ..       | .. | .. | .. | .. | .. | .. | 7'07         |
| June ..      | .. | .. | .. | .. | .. | .. | 2'83         |
| July ..      | .. | .. | .. | .. | .. | .. | 2'92         |
| August ..    | .. | .. | .. | .. | .. | .. | 4'25         |
| September .. | .. | .. | .. | .. | .. | .. | 0'43         |
| October ..   | .. | .. | .. | .. | .. | .. | 9'24         |
| November ..  | .. | .. | .. | .. | .. | .. | 4'82         |
| December ..  | .. | .. | .. | .. | .. | .. | 2'71         |
|              |    |    |    |    |    |    | <u>50'58</u> |

The heaviest rainfall took place in October, when 9'24 inches fell.

The year 1906 is the wettest year recorded for very many years.

## CARDIFF.

Taken at the Llanishen and Lisvane Reservoirs, the Heath Filters, and Ely Pumping Station.

| MONTH.            | LLANISHEN RESERVOIR.                              |   |   | Ely.   |
|-------------------|---|---|---|--|
|                   | At<br>Llanishen Reservoir.<br>Elevation 155 feet. | At<br>Lisvane Reservoir.<br>Elevation 150 feet. | At<br>The "Heath" Filters.<br>Elevation 132 feet. | At Ely<br>Pumping Station.<br>Elevation 53 feet. |
| January .. .. .   | 7'76  | 7'71  | 7'74  | 7'57   |
| February .. .. .  | 4'02  | 3'88  | 3'79  | 4'12   |
| March .. .. .     | 2'79  | 2'69  | 2'94  | 3'12   |
| April .. .. .     | 1'51  | 1'41  | 1'47  | 1'38   |
| May .. .. .       | 4'14  | 4'03  | 4'54  | 5'06   |
| June .. .. .      | 2'43  | 2'46  | 2'50  | 2'33   |
| July .. .. .      | 0'72  | 0'61  | 0'77  | 0'97   |
| August .. .. .    | 2'92  | 3'07  | 2'97  | 3'47   |
| September .. .. . | 0'91  | 0'90  | 0'95  | 1'20   |
| October .. .. .   | 7'52  | 7'17  | 7'67  | 7'67   |
| November .. .. .  | 3'49  | 3'38  | 3'47  | 3'85   |
| December .. .. .  | 2'42  | 2'60  | 2'65  | 2'75   |
| Total .. .. .     | 40'63   | 39'91   | 41'46   | 43'49  |

# METEOROLOGICAL OBSERVATIONS FOR THE YEAR 1906.

Recorded by MR. E. W. WAITE, A.M.I.C.E., at his residence, Canon Street, Barry.

| MONTH.       | BAROMETER. |       |                  | THERMOMETER. |                         |          |       |          |       |                       |                       | EARTH THERMOMETER.     |                              | HYGROMETER.               |                           | Rain-fall.<br>Inches. |                            |                            |
|--------------|------------|-------|------------------|--------------|-------------------------|----------|-------|----------|-------|-----------------------|-----------------------|------------------------|------------------------------|---------------------------|---------------------------|-----------------------|----------------------------|----------------------------|
|              | Highest.   |       | Lowest.<br>Date. | Inch.        | Mean of Month.<br>Inch. | Maximum. |       | Minimum. |       | Mean of Max.<br>Dogs. | Mean of Min.<br>Dogs. | Mean of Mean.<br>Dogs. | No. of Days at or below 32°. | 1 ft. deep Mean.<br>Dogs. | 4 ft. deep Mean.<br>Dogs. |                       | Mean of Dry Bulb.<br>Dogs. | Mean of Wet Bulb.<br>Dogs. |
|              | Date.      | Inch. |                  |              |                         | Date.    | Dogs. | Date.    | Dogs. |                       |                       |                        |                              |                           |                           |                       |                            |                            |
| January ..   | 20th       | 30.40 | 10th             | 29.20        | 29.78                   | 27th     | 52.0  | 23rd     | 32.0  | 47.32                 | 39.77                 | 43.70                  | 2                            | 40.0                      | 42.61                     | 43.74                 | 41.80                      | 5.09                       |
| February ..  | 7th        | 30.20 | 11th             | 28.90        | 29.64                   | 26th     | 50.0  | 12th     | 31.0  | 44.67                 | 36.50                 | 40.58                  | 3                            | 39.07                     | 41.39                     | 40.53                 | 38.96                      | 2.90                       |
| March ..     | 3rd        | 30.40 | 11th             | 29.30        | 29.88                   | 17th     | 61.0  | 26th     | 30.0  | 48.58                 | 38.16                 | 43.37                  | 4                            | 40.51                     | 41.32                     | 42.77                 | 40.61                      | 2.30                       |
| April ..     | 2nd        | 30.40 | 29th             | 29.20        | 29.94                   | 12th     | 66.0  | 29th     | 35.0  | 55.43                 | 40.60                 | 48.01                  | 0                            | 45.06                     | 43.63                     | 47.26                 | 43.83                      | 1.41                       |
| May ..       | 7th        | 29.90 | 18th             | 29.30        | 29.64                   | 13th     | 73.0  | 1st      | 37.0  | 59.00                 | 46.87                 | 52.93                  | 0                            | 51.67                     | 46.35                     | 52.96                 | 50.16                      | 3.66                       |
| June ..      | 20th       | 30.10 | 1st              | 29.40        | 29.88                   | 12th     | 75.0  | 1st      | 43.0  | 68.03                 | 53.70                 | 60.86                  | 0                            | 58.60                     | 50.66                     | 59.20                 | 55.73                      | 2.13                       |
| July ..      | 9th        | 30.00 | 19th             | 29.70        | 29.83                   | 26th     | 80.0  | 1st      | 49.0  | 70.96                 | 55.58                 | 63.27                  | 0                            | 61.61                     | 55.06                     | 62.38                 | 58.41                      | 0.84                       |
| August ..    | 29th       | 30.10 | 13th             | 29.30        | 29.76                   | 7th      | 81.0  | 18th     | 50.0  | 71.32                 | 55.45                 | 64.88                  | 0                            | 64.12                     | 57.09                     | 63.96                 | 60.67                      | 2.83                       |
| September .. | 26th       | 30.30 | 15th             | 29.40        | 29.97                   | 1st      | 83.0  | 26th     | 46.0  | 65.70                 | 53.23                 | 59.46                  | 0                            | 60.76                     | 57.60                     | 58.10                 | 54.26                      | 1.14                       |
| October ..   | 25th       | 30.10 | 30th             | 29.00        | 29.58                   | 22nd     | 65.0  | 31st     | 38.0  | 58.96                 | 49.96                 | 54.46                  | 0                            | 54.93                     | 54.61                     | 53.96                 | 51.80                      | 5.59                       |
| November ..  | 25th       | 30.30 | 18th             | 28.90        | 29.62                   | 22nd     | 58.0  | 13th     | 36.0  | 51.10                 | 44.10                 | 47.60                  | 0                            | 45.83                     | 46.20                     | 47.20                 | 46.23                      | 3.55                       |
| December ..  | 21st       | 30.30 | 26th             | 28.90        | 29.71                   | 2nd      | 56.0  | 29th     | 27.0  | 44.67                 | 37.61                 | 41.14                  | 6                            | 40.93                     | 45.54                     | 41.03                 | 39.58                      | 2.20                       |



## BRIDGEND.

## METEOROLOGICAL OBSERVATIONS, 1906.

| MONTH.    | BAROMETER. |         |                | THERMOMETER.     |                 |              |              |                    |                              |                   | HYGROMETER.       |           |         |      |      |      |
|-----------|------------|---------|----------------|------------------|-----------------|--------------|--------------|--------------------|------------------------------|-------------------|-------------------|-----------|---------|------|------|------|
|           | Highest.   | Lowest. | Mean of Month. | Highest Maximum. | Lowest Minimum. | Mean of Max. | Mean of Min. | Mean of Mean.      | No. of Days at or below 30°. | Mean of Dry Bulb. | Mean of Wet Bulb. | Rainfall. |         |      |      |      |
|           | Date.      | Inches. | Date.          | Inches.          | Date.           | Degs.        | Date.        | Degs.              | Degs.                        | Degs.             | Degrees.          | Degrees.  | Inches. |      |      |      |
| January   | .. 23rd    | 30·67   | 9th            | 29·38            | 29·91           | 19th         | 54·0         | 23rd               | 21·0                         | 48·4              | 36·9              | 42·6      | 8       | 44·4 | 42·8 | 8·03 |
| February  | .. 5th     | 30·28   | 10th           | 29·12            | 29·78           | 9th          | 52·0         | 6th, 12th, & 21st  | 22·0                         | 44·9              | 33·4              | 39·1      | 9       | 39·5 | 36·9 | 4·41 |
| March ..  | .. 4th     | 30·50   | 11th           | 29·31            | 30·01           | 18th         | 57·5         | 28th & 29th        | 25·5                         | 50·4              | 35·9              | 43·1      | 10      | 43·4 | 40·6 | 3·69 |
| April ..  | .. 9th     | 30·62   | 29th           | 29·31            | 30·05           | 13th         | 70·0         | 14th, 25th, & 27th | 27·0                         | 55·8              | 35·1              | 45·4      | 10      | 50·4 | 45·5 | 1·58 |
| May ..    | .. 7th     | 30·15   | 18th           | 29·53            | 29·86           | 14th         | 78·5         | 1st                | 30·5                         | 59·6              | 44·3              | 51·9      | 2       | 53·5 | 50·8 | 7·14 |
| June ..   | .. 5th     | 30·40   | 1st            | 29·62            | 30·16           | 13th         | 84·0         | 4th & 17th         | 41·5                         | 71·5              | 48·7              | 60·1      | 0       | 60·6 | 57·5 | 2·29 |
| July ..   | .. 9th     | 30·34   | 31st           | 29·92            | 30·07           | 31st         | 78·0         | 12th               | 42·0                         | 68·0              | 50·4              | 57·2      | 0       | 59·7 | 57·3 | 2·44 |
| August    | .. 28th    | 30·45   | 13th           | 29·60            | 30·03           | 31st         | 80·0         | 30th               | 45·5                         | 68·1              | 53·0              | 60·5      | 0       | 64·6 | 61·8 | 3·19 |
| September | .. 27th    | 30·64   | 15th           | 29·60            | 30·21           | 2nd          | 83·0         | 27th               | 35·5                         | 66·7              | 49·0              | 56·8      | 0       | 61·3 | 57·4 | 1·33 |
| October   | .. 26th    | 30·18   | 30th           | 29·22            | 29·81           | 4th          | 66·5         | 31st               | 28·5                         | 57·3              | 44·1              | 50·9      | 1       | 53·3 | 52·2 | 7·66 |
| November  | .. 28th    | 30·56   | 18th           | 29·06            | 29·89           | 23rd         | 59·0         | 13th               | 25·5                         | 52·0              | 38·2              | 45·1      | 6       | 44·9 | 43·7 | 4·22 |
| December  | .. 20th    | 30·60   | 26th           | 29·16            | 30·01           | 3rd          | 53·0         | 14th               | 26·5                         | 43·6              | 32·7              | 38·1      | 13      | 39·9 | 38·9 | 3·31 |

## PART II.

# URBAN DISTRICTS.

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### ABERAVON (Borough).

Medical Officer of Health—J. ARNALLT JONES, M.D., D.P.H.

Area in Acres, 2.060.

|            |       |       |    |       |    |                    |
|------------|-------|-------|----|-------|----|--------------------|
|            |       | 1891. |    | 1901. |    | 1906.              |
| Population | .. .. | 6,281 | .. | 7,553 | .. | 7,950 (estimated). |

|                   |                           |                                       |                             |
|-------------------|---------------------------|---------------------------------------|-----------------------------|
| Birth-rate, 40·3. | Death-rate, 13·5.         | Zymotic death-rate, 1·7.              | Infant mortality-rate, 140. |
|                   | Phthisis death-rate, 1·3. | Respiratory diseases death-rate, 2·8. |                             |

### INFECTIOUS DISEASES.

18 cases were notified as compared with 39 in 1905. These included *Diphtheria* (4 cases) ; *Erysipelas* (6 cases) ; *Scarlet Fever* (2 cases) ; *Enteric Fever* (2 cases, 2 deaths) ; and *Puerperal Fever* (4 cases).

*Scarlet Fever*.—This disease was absent from the town from July, 1905, until September, 1906, when a case appeared in Isaac Place. In December another case appeared in Wharf Row, at the Docks. There was no further spread from either case.

*Diphtheria*.—4 cases were notified, but there was no spread of the infection.

*Enteric Fever*.—2 cases occurred during the month of September, and these terminated fatally. Neither of these cases could be removed to the Sanatorium as it was closed for repairs.

*Puerperal Fever*.—4 cases were notified, two of which were attended by the same midwife ; no deaths occurred.

5 deaths occurred from *Whooping Cough*, 7 from *Diarrhæa*, and 2 from *Enteritis*.

### GENERAL CONDITIONS.

*Water Supply*.—The rainfall—50·58 inches—is above the average, but the quality of the water is not satisfactory. The Medical Officer of Health, Borough Surveyor, and Sanitary Inspector made a thorough examination of the town reservoir at Ynysygwas and its surroundings, and it was found that the meadows adjoining and the old farm buildings are so situated as to drain into the reservoir.

With a view to protecting the sources of the reservoir from pollution by excreta of animals, the Medical Officer of Health suggested :—

- 1.—To secure the two meadows adjoining “ Old Pencastell Farm,” to prevent animals grazing thereon. These meadows are intersected by open drains which discharge into the main feeder.
- 2.—To fence in the main stream in its course as far as is necessary ; this would be for a very short distance only.
- 3.—To remove from the vicinity of “ Old Pencastell Farm ” the collections of dung, etc., the surface drainage from which enters the reservoir.
- 4.—To pull down the old out-buildings and re-erect them nearer the New Pencastell Farm, so that the drainage of the cowhouses and stables may in future flow in a direction away from our reservoir.

So far, the Council have not taken up the matter seriously, but the Medical Officer of Health rightly emphasises the primary importance of providing the inhabitants of the District with pure wholesome water.

*Scavenging.*—The house refuse is collected daily in the centre of the town by the Corporation scavengers, and in the outskirts at regular intervals. No complaints have been received during the year.

*Sewerage and Drainage.*—The greater portion of the Borough is sewered and drained ; the sewage discharges into the tidal waters of the Afan. The sewers are regularly flushed.

*Slaughter-house.*—The slaughter-house is stated to be in a very discreditable state, the yard being foul-smelling, the slaughtering chamber dirty, and a gut scraper followed his trade in the adjoining chamber.

*Milk Supply.*—The Medical Officer of Health dwells at length on this important subject, and he has personally examined 17 samples, 5 of which were of a high standard, 5 very fair, 4 indifferent, and 3 poor.

## IMPROVEMENTS.

### *Works Completed.*

Repairs to wall of esplanade, etc.  
Sewerage of Velindre, also Private Street Works.

### *Works Contemplated.*

New market to replace the old one destroyed by fire.  
Public street works in certain streets.  
Public urinals.  
Extension of sewers.  
Corporation stables.  
General stores.  
Mortuary.  
Drainage of Moors.  
New cemetery.

## REQUIREMENTS.

A sufficient supply of pure water.

Mortuary.

Steam disinfecting apparatus.

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## ABERDARE.

Medical Officer of Health—DAVID DAVIES, F.R.C.S.

Area in acres, 15,127.

|                  | 1891.  | 1901.  | 1906.               |
|------------------|--------|--------|---------------------|
| Population .. .. | 40,917 | 43,357 | 48,500 (estimated). |

|                    |                            |  |                             |
|--------------------|----------------------------|--|-----------------------------|
| Birth-rate, 30·28. | Death-rate, 17·52.         | Zymotic death-rate, 2·06.              | Infant mortality-rate, 209. |
|                    | Phthisis death-rate, 0·41. | Respiratory diseases death-rate, 4·06. |                             |

## INFECTIOUS DISEASES.

434 cases were notified, as compared with 1,172 in 1905. These included *Diphtheria* (106 cases, 10 deaths); *Membranous Croup* (8 cases, 5 deaths); *Erysipelas* (74 cases, 1 death); *Scarlet Fever* (206 cases, 11 deaths); *Typhoid Fever* (34 cases, 5 deaths); and *Puerperal Fever* (6 cases, 2 deaths).

46 deaths occurred from *Diarrhœa*, 25 from *Whooping Cough*, 3 from *Measles*, 20 from *Phthisis*, and 6 from *Influenza*.

The death-rate for 1906 is below the average, in fact, it has only once been lower for the last 30 years, namely, in 1900, when it was 16·38 per 1,000.

The decrease in the number of cases of Infectious Diseases notified is most marked, the number of cases being 434—the lowest number received since the adoption by the Council in 1897 of the Infectious Diseases Notification Act.

The infantile mortality-rate is in excess of that for 1905.

All the workshops, workplaces, and bakehouses within the District were regularly inspected during the year, and all sanitary defects remedied, without having recourse to legal proceedings.

## IMPROVEMENTS.

These are not specified (see Quarterly Reports).

## REQUIREMENTS.

These are not specified (see Quarterly Reports).



## BARRY.

Medical Officer of Health—GEORGE NEALE, L.R.C.P.

Area in acres, 4,104.

|                   |                           |                                       |                               |
|-------------------|---------------------------|---------------------------------------|-------------------------------|
|                   | 1891.                     | 1901.                                 | 1906.                         |
| Population .. ..  | 12,665                    | 27,030                                | 31,272 (estimated).           |
| Birth-rate, 29·5. | Death-rate, 10·9.         | Zymotic death-rate, 1·4.              | Infant mortality-rate, 114·8. |
|                   | Phthisis death-rate, 1·1. | Respiratory diseases death-rate, 1·5. |                               |

## INFECTIOUS DISEASES.

332 cases were notified as compared with 349 in the previous year. These included *Small Pox* (1 case); *Diphtheria* and *Membranous Croup* (22 cases, 4 deaths); *Erysipelas* (41 cases); *Scarlet Fever* (247 cases, 5 deaths); *Enteric Fever* (18 cases, 3 deaths); and *Puerperal Fever* (3 cases, 3 deaths).

One death occurred from *Whooping Cough*, 16 from *Diarrhæa*, and 1 from *Measles*.

*Small Pox*.—One case occurred, the patient being an Engineer who contracted the disease in Lisbon, and came direct to Barry. The patient was at once removed to the Sanatorium, and the vessel thoroughly disinfected. As many of the crew as would consent were vaccinated, and the names and addresses of those who were leaving the ship were forwarded to their respective destinations. The bedding and clothing which had been in contact with the patient were disinfected or destroyed. Strict watch was kept during the vessel's stay in port, but no other case occurred.

*Scarlet Fever*.—247 cases were notified, being an increase of 55 as compared with the previous year. The disease was generally prevalent throughout the District, but many of the cases were of a mild type. The majority of the cases occurred amongst children of between 5 years and 15 years of age, only 22 children under the age of 5 years being affected.

*Diphtheria and Membranous Croup*.—22 cases occurred as against 98 in the previous year. Of these, 4 proved fatal.

*Diarrhæa*.—Until the third quarter, very little Diarrhœa existed in the District. Of the 16 deaths from this disease, 12 were those of children under 1 year, and four under 5 years.

*Puerperal Fever*.—3 cases were notified, and these proved fatal. In all cases, the midwives were suspended, and all articles of clothing, etc., were disinfected and washed.

## GENERAL CONDITIONS.

*Water Supply*.—The supply is derived from wells sunk and headings driven in the carboniferous limestone formation on land within the Parish of St. Andrews Major.

*Sewerage and Drainage*.—This is provided for by means of egg-shaped brick sewers and iron and stoneware pipes, etc., with the necessary manholes and lampholes. There are also a number of 6-inch pipe ventilators in the District. Where the gradient is small, automatic flush tanks are provided. The whole of the sewage is discharged into the sea, below low water mark.

*Removal and Disposal of Refuse.*—Daily scavenging is done, the refuse being taken to the destructor in properly constructed carts, etc. About 15 tons of refuse are burnt daily, some 4,690 tons having been destroyed during the year.

*Schools.*—These were frequently visited by the Medical Officer of Health and Sanitary Inspectors, and found in a satisfactory condition. Several of the Schools were disinfected after cases of infectious disease.

*Dairies, Cowsheds, and Milkshops.*—The number of these on the register is 120. 32 new applications for registration were received, and in each case the premises were inspected and the necessary alterations insisted upon.

*Bakehouses.*—These have been carefully inspected.

*Common Lodging Houses.*—There are five in the District, and these were frequently inspected both by day and night and the regulations strictly carried out.

*The Public Abattoir.*—12,689 animals were slaughtered here. The abattoir was visited daily, and found satisfactory.

In addition, frequent inspections were made of the various shops in the District. Some 1,686 lbs. of diseased meat was destroyed, and also 12 tons of potatoes, which were absolutely unfit for food.

*Small Pox Hospital.*—This is situated off the Weycock Road, and is now complete and ready for the reception of cases, and the Council are about to furnish the Sanatorium and Small Pox Hospital. The cost of the buildings, etc., is £3,792 exclusive of the site, the total cost being £4,624.

#### IMPROVEMENTS.

Private streets and lanes, 1,087 lineal yards.

Public road widenings, 1,635 lineal yards.

Sewers and drains constructed, 1,911 lineal yards.

Paving of public highways, 1,087 super yards.

Widening of Colcot Road, and sewers and drains for the same.

Small Pox Hospital.

#### REQUIREMENTS.

Not stated.

#### BRIDGEND.

Medical Officer of Health—WYNDHAM RANDALL, M.R.C.S., L.R.C.P.

Area in acres, 700.

|            |    |    |       |    |       |    |                    |
|------------|----|----|-------|----|-------|----|--------------------|
|            |    |    | 1891. |    | 1901. |    | 1906.              |
| Population | .. | .. | 4,896 | .. | 6,066 | .. | 7,244 (estimated). |

Birth-rate, 27·06. \*Death-rate, 14·77. Zymotic Death-rate, 0·81. Infant mortality-rate, 102·04.

Phthisis death-rate, 1·38. Respiratory diseases death-rate, 1·51.

\* *Corrected death-rate by deducting deaths at Workhouses, etc., of non-residents, and adding the deaths at the County Asylum of residents.*

## INFECTIOUS DISEASES.

31 cases were notified as compared with 136 in 1905. These included *Diphtheria* (11 cases, 1 death) ; *Scarlet Fever* (12 cases) ; *Enteric Fever* (4 cases) ; *Puerperal Fever* (2 cases, 1 death) ; and *Erysipelas* (2 cases).

No deaths occurred from *Scarlet Fever*, *Enteric Fever*, or *Erysipelas*.

6 deaths occurred from *Diarrhæa*, 2 from *Enteritis*, and 2 from *Epidemic Influenza*.

7 deaths occurred in all from the seven principal Zymotic Diseases, as against 22 in 1905

## GENERAL CONDITIONS.

*Water Supply*.—The new water works on Ogmores Downs are completed and in use. The water supply is stated to be, as usual, plentiful, but great care should be observed in its filtration.

*Slaughter-houses*.—The necessity of a public abattoir is again urged.

*Common Lodging House*.—The one at Newcastle is still in use.

*House Accommodation*.—12 new houses have been erected, and 35 are in course of erection. 1,467 houses are at present occupied in the District, and 32 are vacant. One house was closed as "unfit," and it is recommended that four others, viz., Nos. 1, 2, 3, and 4, Water Street should also be closed.

*Dairies, Cowsheds, and Milkshops*.—The regulations are strictly enforced, and several structural and other defects were remedied

*Bakehouses and Workshops*.—These have been inspected, reported upon, and improvements effected.

*Phthisis*.—Houses are now disinfected after the removal of persons suffering from phthisis, if the Sanitary Inspector is informed of the case.

## IMPROVEMENTS.

Private street works in various parts of the District.

Extension of sewer in the lane on west side of Cemetery Road.

A length of 175 feet of 6-inch storm water sewer has been laid in Edward Street, and a man hole constructed.

## REQUIREMENTS.

A public abattoir.

The appointment of a permanent additional Sanitary Inspector.

The closing or repair of certain dwellings.

Isolation accommodation.

Provision for disinfection.

## BRITON FERRY.

Medical Officer of Health—E. VERNON PEGGE, M.R.C.S., L.R.C.P.

Area in acres, 1,381.

|  |                   | 1891.                      | 1901. | 1906.                         |
|--|-------------------|----------------------------|-------|-------------------------------|
| Population                             | .. ..             | 5,779                      | 6,961 | 8,000 (estimated).            |
| Birth-rate, 33·6.                      | Death-rate, 15·3. | Zymotic death-rate, 1·5.   |       | Infant mortality-rate, 140·7. |
| Respiratory diseases death-rate, 3·12. |                   | Phthisis death-rate, 1·00. |       |                               |

### INFECTIOUS DISEASES.

37 cases were notified as compared with 149 in 1905. These included *Diphtheria* (20 cases, 3 deaths) ; *Erysipelas* (1 case) ; *Scarlet Fever* (13 cases) ; and *Enteric Fever* (3 cases, 1 death).

One death occurred from *Whooping Cough*, and 7 from *Diarrhæa*.

The Isolation Hospital at Giant's Grave has not been used during the year.

### GENERAL CONDITIONS.

*The Slaughter-houses.*—These were frequently inspected, and are said to be kept in as good a condition as circumstances will permit.

Considerable attention has been given to the question of providing a public abattoir. A number of sites were inspected and plans prepared by the Surveyor for laying out the same.

*Nuisances.*—Periodical and systematic inspection of the District has been carried out and much improvement effected.

*Scavenging.*—This work continues to be done by the Council's employees, under the superintendence of the Surveyor, and is much better than when done by contract.

*Housing.*—The Surveyor has prepared a scheme for the erection of 51 houses for the working classes. There is still a great demand for houses.

*Water Supply.*—The supply has been well maintained, being constant throughout the year.

*Dairies, Cowsheds, and Milkshops.*—These were frequently inspected, and found to be kept in very fair condition.

*Workshops and Workplaces.*—These were periodically inspected ; two cases of overcrowding occurred during the year.

### IMPROVEMENTS.

575 yards of 5-inch, and 108 yards of 4-inch water mains.

### REQUIREMENTS.

Provision of a new Isolation Hospital.

A public slaughter-house.



## CAERPHILLY.

Medical Officer of Health—T. W. THOMAS, M.R.C.S., L.R.C.P.

Area in acres, 17,000.

|                    | 1891.                     | 1901.                                 | 1906.                       |
|--------------------|---------------------------|---------------------------------------|-----------------------------|
| Population . . . . | 14,000                    | 16,250                                | 22,500 (estimated)          |
| Birth-rate, 37·4   | Death-rate, 15·7.         | Zymotic death-rate, 2·0.              | Infant mortality-rate, 154. |
|                    | Phthisis death-rate, 0·4. | Respiratory diseases death-rate, 1·9. |                             |

## INFECTIOUS DISEASES.

231 notifications were received as compared with 177 in 1905. These included *Diphtheria* (47 cases, 11 deaths); *Erysipelus* (3 cases); *Scarlet Fever* (167 cases, 3 deaths); *Enteric Fever* (12 cases); and *Puerperal Fever* (2 cases, 1 death).

One death occurred from *Whooping Cough* and 3 from *Diarrhæa*.

*Scarlet Fever* was very prevalent, especially in the Nelson Ward, where it assumed the epidemic form, and the Schools were closed in this District. Several adults were affected, and a few very severely, but, generally speaking, the disease was a mild one, as only 3 deaths occurred.

*Diphtheria* was most prevalent in the Aber Ward, where 28 cases occurred out of the total of 47 notified. There did not appear to be a common origin in either Ward, although in many cases sanitary defects were observed in the houses concerned.

*Enteric Fever*.—One of the cases was an imported one. Insufficient care in the disposal of the infected stools, defective drainage, and possibly local conditions are the causes to which the disease is attributed. The unsatisfactory state of the water supply is condemned in strong terms.

*Puerperal Fever*.—Of the two cases notified one proved fatal. The good effected by the new Midwives Act in improving the midwife and the insistence upon greater cleanliness is referred to.

## GENERAL CONDITIONS.

*Water Supply*.—The Medical Officer of Health writes:—" . . . . I cannot close my eyes to the fact that the water supplied by our Water Company was not above suspicion, for each sample taken contained germs which must have had a prejudicial effect on the health of the consumers, and were such that I had leaflets printed and distributed advising all to boil the water before drinking. It is a matter of regret that such a step is yearly rendered necessary through the indifference of the Company in not trying to render the supply wholesome if not plentiful. It would ill become me to enlarge on this point, as I believe you, as a body, are seeking, quite justifiably, to obtain redress of a public grievance of some years' standing, by some other means, and until this is settled, so long I fear will we as a District suffer."

*Refuse Removal* is carried out on the whole in a satisfactory manner, but the difficulty of finding suitable depôts is getting yearly more marked.

*Slaughter-houses* are said to be in the same state as in the past, and the necessity for the erection of public slaughter-houses is referred to.

*The Common Lodging House* is kept clean, and periodically limewashed.

*Isolation Hospital*.—The building is almost completed. The planting of trees to afford protection to the building is recommended. The Medical Officer of Health writes—"Personally, I believe this building will compare most favourably with the best in the kingdom."

*Bakehouses*.—Various improvements have been made as to these. They were frequently visited and found whitewashed and generally clean.

*Dairies, Cowsheds, and Milkshops*.—These were frequently visited by the Medical Officer of Health and Sanitary Inspector. Insufficiency of cubic space, bad ventilation, low head room, are complained of. The animals are often not properly groomed, and no attempt is made to wash the udder before milking. Compliance with the bye-laws should be insisted upon, and every precaution should be observed to procure a pure milk supply.

## IMPROVEMENTS.

Isolation Hospital (nearing completion).

## REQUIREMENTS.

Public abattoirs.

A system of sewerage for Nelson.

Public sanitary conveniences in the Town Ward.

The appointment of an additional Sanitary Inspector.

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## COWBRIDGE (Borough).

Medical Officer of Health—R. M. MOYNAN, M.D.

Area in acres, 84.

|                   | 1891.                      | 1901.                                 | 1906.                       |
|-------------------|----------------------------|---------------------------------------|-----------------------------|
| Population .. ..  | 1,360                      | 1,202                                 | 1,202 (estimated).          |
| Birth-rate, 17·4. | Death-rate, 18·3.          | Zymotic death-rate, nil.              | Infant mortality-rate, nil. |
|                   | Phthisis death-rate, 0·83. | Respiratory diseases death-rate, 4·1. |                             |

## INFECTIOUS DISEASES.

Four cases were notified as compared with 21 in 1905. These included *Scarlet Fever* (1 case); and *Erysipelas* (3 cases); none of which proved fatal.

One death occurred from *Epidemic Influenza*.

## GENERAL CONDITIONS.

*Water Supply.*—This is the same as in the past. The analyses of the waters show that their improved condition is maintained.

*Drainage.*—There is no system of drainage in the Borough.

*Common Lodging House.*—This is kept in fairly good order, and no complaints have been made respecting it.

*The Slaughter-house* is unsatisfactory and inadequate for the slaughtering done thereat. The provision of a commodious and up-to-date abattoir is urged.

*Roads, etc.,* are in a satisfactory state. During the summer the High Street was treated by tarring the surface, thereby totally abating the dust nuisance complained of in previous years.

*Factory and Workshops Acts.*—The factories and workshops were frequently inspected and found to be in a satisfactory state.

## IMPROVEMENTS.

The tarring of main street.

## REQUIREMENTS.

A supply of pure and wholesome water.

A system of drainage and sewerage.

A public slaughter-house.

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 GLYNCORWG.

Medical Officer of Health—HENRY DAVIES, M.B., C.M.

Area in acres, 13,926.

|                   | 1891.                      | 1900.                                  | 1906.                         |
|-------------------|----------------------------|--|-------------------------------|
| Population .. ..  | 3,800                      | 6,500                                  | 7,500 (estimated).            |
| Birth-rate, 52·3. | Death-rate, 15·23.         | Zymotic death-rate, 0·8.               | Infant mortality-rate, 141·1. |
|                   | Phthisis death-rate, 0·00. | Respiratory diseases death-rate, 2·53. |                               |

## INFECTIOUS DISEASES.

44 cases were notified as compared with 123 in 1905. These included *Diphtheria* (10 cases) ; *Scarlet Fever* (8 cases) ; *Typhoid Fever* (22 cases, 1 death) ; *Puerperal Fever* (1 case) ; and *Erysipelas* (3 cases).

Two deaths occurred from *Whooping Cough*, 3 from *Diarrhæa*, and 4 from *Enteritis*.

## GENERAL CONDITIONS.

*Water Supply.*—The supply is obtained from the Nant-yr-Allor Brook, Glynorwg, from which samples have been analysed quarterly, the results on the whole being satisfactory.

The Medical Officer of Health writes:—" . . . . Should you experience a long period of drought, the present storage would not be sufficient, as it only yields 60,000 gallons of water to the whole District, which averages 8 gallons per head per day, whilst the average supply should yield 25 gallons per head per day. . . . ."

*Sewerage and Drainage.*—Reference is made to the unsatisfactory state of the privies, middens, etc., and the urgent necessity of entering into an arrangement with the Margam Council for a combined scheme, or failing this, the adoption of a suitable scheme within the District.

*Scavenging.*—This is systematically carried out. The tipping sites at Glynorwg and Cymmer are some distance away from dwellings, but the Abergwynfi sites, viz., the one near the Great Western Hotel, and also the one by the Council Schools, are objectionable, and tipping thereat should be stopped.

The *Slaughter-houses*, of which there are two in the District, are well kept, and periodically lime-washed.

*Dairies, Cowsheds, and Milkshops.*—These were frequently inspected, and found to be in a satisfactory condition.

*Bakehouses.*—Three certificates have been granted for underground bakehouses, and all the others are well kept.

## IMPROVEMENTS.

Not stated.

## REQUIREMENTS.

Not stated.

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## MAESTEG.

Medical Officer of Health—WALTER KIRKBY, L.R.C.P., L.R.C.S.

Area in acres, 6,709.

|                  | 1891. | 1901.  | 1906.               |
|------------------|-------|--------|---------------------|
| Population .. .. | 9,417 | 15,013 | 22,468 (estimated). |

Birth-rate, 36·14.      Death-rate, 14·73.      Zymotic death-rate, 2·5.      Infant mortality-rate, 136·6.

Phthisis death-rate, 06·2.      Respiratory diseases death-rate, 3·3.



## INFECTIOUS DISEASES.

54 cases were notified as compared with 110 in 1905. These included *Diphtheria* and *Membranous Croup* (6 cases, 3 deaths); *Scarlet Fever* (20 cases); *Enteric Fever* (23 cases, 2 deaths); *Erysipelas* (4 cases); and *Puerperal Fever* (1 case, 1 death).

Two deaths occurred from *Measles*, 13 from *Whooping Cough*, 36 from *Diarrhæa*, and 2 from *Epidemic Influenza*.

*Scarlet Fever*.—Only 20 cases occurred, and none of these proved fatal. 52 cases were notified in 1905, and 2 deaths took place.

*Diphtheria*.—6 cases occurred, 3 of which died. In the houses where sanitary defects were found, the usual notices were served to remedy the same.

*Enteric Fever*.—23 cases were notified, as compared with 46 in 1905; 2 of these proved fatal. 15 of these cases were contracted directly from pre-existing cases, in one instance 5 cases occurred in the same house.

*Measles* was prevalent during the first quarter; more especially in the Nantyllyllon and Caerau Wards. Only 2 deaths occurred as compared with 12 in the previous year.

*Whooping Cough* was extremely prevalent during the first half of the year, no less than 13 deaths being registered from this cause, 8 of which being infants under one year of age.

## GENERAL CONDITIONS.

*House Accommodation*.—144 houses were erected and occupied as against 205 in 1905, and 283 in 1904. There is plenty of open space around the majority of the houses, and the surroundings are kept fairly clean. The Medical Officer of Health and Sanitary Inspector have paid periodical visits to all the worse houses in the District, and various defects have thus been brought to light and remedied; at the same time, there is still a number of houses in the District which need structural alterations.

No houses were closed during the past year, as compared with 6 during 1905.

*Sewerage and Drainage*.—The main sewerage works was completed at the end of 1905, and all house drains throughout the District have been connected to the main sewers. The sewage is now dealt with at Cwmfelin, and the effluent therefrom is said to be clear and odourless.

*Refuse Removal*.—All house refuse is removed daily from all parts of the town, without causing any nuisance.

*Water Supply*.—All the houses in the District are supplied with water, but during the summer months the supply is at times insufficient. Unfortunately the construction of the storage reservoir at Blaencwm-cerwyn, to hold 30,000,000 gallons, has had to be abandoned, since, after excavating a puddle trench to a depth of 80 feet, no satisfactory bottom was found.

*Slaughter-houses*.—There are 14 private slaughter-houses in the District, and these are periodically inspected, but owing to their being so scattered over the District, it is impossible to exercise a perfect supervision over them. Undoubtedly a public slaughter-house is needed for this District to ensure a regular inspection of the meat supply.

*Dairies, Cowsheds, and Milkshops*.—These have been regularly inspected and found fairly clean.

## IMPROVEMENTS.

Cleaning and painting of Isolation Hospital.

Construction of storm water drain in Garth Road.

Construction of 9-inch pipe sewer at Tonna Road.

Diversion of the 6-inch water main at Caerau Colliery.

Construction of new 3-inch water main from Nantylfyllon Brook to King's Terrace.

Construction of supplementary sewerage works throughout the District.

## REQUIREMENTS.

A public abattoir.

Paving and channelling of many streets.

An adequate water supply.

The adoption of the Infectious Diseases Prevention Act, 1890.

Distribution of leaflets as to precautions to observe in cases of infectious diseases.

The enforcement of the Bye-laws as to the keeping of pigs.

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## MARGAM.

Medical Officer of Health—J. H. DAVIES, M.D.

Area in acres, 18,347.

|            |    |    |       |    |       |    |                     |
|------------|----|----|-------|----|-------|----|---------------------|
|            |    |    | 1891. |    | 1901. |    | 1906.               |
| Population | .. | .. | 6,274 | .. | 9,014 | .. | 10,500 (estimated). |

|                   |                            |                                       |                               |
|-------------------|----------------------------|---------------------------------------|-------------------------------|
| Birth-rate, 34·1. | Death-rate, 13·9.          | Zymotic death-rate, 1·42.             | Infant mortality-rate, 116·9. |
|                   | Phthisis death-rate, 0·85. | Respiratory diseases death-rate, 1·6. |                               |

## INFECTIOUS DISEASES.

104 cases were notified as compared with 95 in 1905. These included *Diphtheria* and *Membranous Croup* (41 cases) ; *Scarlet Fever* (32 cases, 1 death) ; *Erysipelas* (29 cases, 1 death) ; *Enteric Fever* (1 case) ; and *Puerperal Fever* (1 case, 1 death).

Four deaths occurred from *Measles*, 9 from *Whooping Cough*, 1 from *Diarrhæa*.

29 cases were removed to the Sanatorium, viz., 11 *Diphtheria*, and 18 of *Scarlet Fever*.

*Precautions taken against the spread of Infectious Diseases.*—In every case strong measures are taken to prevent the spread of infectious disease, the importance of immediate removal to the Isolation Hospital is emphasised in every case, and this is done without delay. If treated at home, the patients are properly isolated, and as soon as the period of desquamation is over and nasal and aural discharges are stopped, fumigation and disinfection of rooms, bed, and bedding, are carried out under the supervision of the Sanitary Inspector.

*The Sanatorium.*—This is stated to be managed in a most satisfactory manner, and no deaths occurred during the year. Some improvements are required in connection with it, such as the varnishing of the inside and the painting of the outside, and a few general repairs.

### GENERAL CONDITIONS.

The whole of the District has been thoroughly inspected, and all sanitary defects found were remedied.

### IMPROVEMENTS.

Sewer extension at Toneirych.

New sewer at Gwarycaeau.

Drainage of Ffrwdwyllt Street and flood protection works for Ffrwdwyllt Cottages.

Extension of water mains to new streets.

Additional water supply to Bryn.

Improvement of Margam Terrace and new footways.

Fixing of motor danger symbols.

Fencing of St. Theodore's Park.

New footways, Trissant.

Making of Bryngurnos Street, Bryn.

Extension of Mynydd Bychan Road.

Road widenings, Toneirych.

Erection of new Council Offices.

New bridge at and widening of Water Street, Margam.

Repairs to roads at Taibach.

New floor to Public Baths.

Fencing Tydraw Hill.

### REQUIREMENTS.

Refuse destructor.

Public slaughter-house.

# MERTHYR TYDFIL (Borough).

Medical Officer of Health—ALEX. DUNCAN, M.B., C.M., D.P.H.

Area in acres, 17,761.

| Population                | 1891                                  | 1901.                    | 1906.                       |
|---------------------------|---------------------------------------|--------------------------|-----------------------------|
| .. ..                     | 58,080                                | 69,512                   | 74,961 (estimated).         |
| Birth-rate, 36·2.         | Death-rate, 19·0.                     | Zymotic death-rate, 2·9. | Infant mortality-rate, 179. |
| Phthisis death-rate, 0·9. | Respiratory diseases death-rate, 3·8. | Cancer death-rate, 0·65. |                             |

The *Infant mortality-rate* was 179 as compared with 204 in 1905. Appended is a copy of the resolutions passed at the National Conference on Infantile Mortality, held in London on June 13th and 14th, 1906, particular attention being directed to resolution No. 10, and the Council have under consideration the advisability of appointing a Health Visitor, but before doing so, they decided to await the result of their application for County Powers. If this application be successful, it will be necessary to appoint an Inspector of Midwives, and she could combine the duties of Health Visitor and Inspector of Midwives.

## INFECTIOUS DISEASES.

509 cases were notified as compared with 637 in 1905. These included *Small Pox* (1 case); *Scarlet Fever* (245 cases, 11 deaths); *Diphtheria and Membranous Croup* (120 cases, 11 deaths); *Enteric Fever* (85 cases, 11 deaths); *Puerperal Fever* (7 cases, 3 deaths); and *Erysipelas* (51 cases, 2 deaths).

No deaths occurred from *Measles*, 31 from *Whooping Cough*, 134 from *Diarrhœa*, and 9 from *Enteritis*.

*Scarlet Fever*.—Of the 245 cases notified, 11 proved fatal, as against 334 cases and 21 deaths in 1905. Of the total number only 88 were removed to Hospital, as compared with 74 last year. The plan of keeping the patients in Hospital for one month only, unless suffering from an aural or nasal discharge, was continued, and apparently with successful results, as no return cases were notified.

*Diphtheria*.—120 cases were notified, with 31 deaths, as compared with 132 cases and 22 deaths in 1905. The cases were fairly distributed over the whole District, with the exception of Treharris, at which there were no cases. With a view to reducing this mortality, the Council were advised by their Medical Officer to distribute serum free of charge to the medical men of the District, but the Council did not adopt this plan. The Medical Officer of Health observes—“ . . . . As it is mainly a disease of School life, School Teachers could do much to lessen the number of unrecognised cases by reporting every case of sore throat, however mild. Were this done in every case where School children suffered from sore throat, there would be fewer missed cases, and a smaller number of fatalities, as treatment could be instituted at an earlier stage of the disease.

*Typhoid Fever*.—95 cases, 14 deaths. 45 cases were removed to Hospital as compared with 56 last year. Several of the cases, after admission to Hospital, were found not to be Typhoid, and this would also apply to the cases not admitted, so that the disease was not so prevalent as indicated by the number of notifications. In a number of the cases, drainage defects were discovered in the houses where the patients resided, and these were remedied.



*Puerperal Fever.*—7 cases occurred, with 3 deaths, as compared with 7 cases and 6 deaths in 1905.

*Diarrhæal Diseases* accounted for 135 deaths, the greater majority of which were those of infants under 1 year of age, viz., 107 out of a total of 134.

The heaviest incidence of the disease was in September, when 73 deaths occurred. But of the 107 deaths under 1 year of age, only 12 were entirely breast-fed, 6 were partly breast-fed, while the remainder were entirely hand-fed. Apart from the question of the method of feeding, the problem that presents itself is the prevention of the contamination of the food.

The Medical Officer of Health states:—" . . . . I can only repeat what I said last year as to the necessity for stringency in the regulations of stables, cowsheds, and fowl-keeping. It is necessary that there should be a higher standard of domestic cleanliness than at present exists in part of the Borough, though, before we can expect this, we must see that the houses are up to modern requirements, with, for example, proper cupboards to store the food. . . ."

### GENERAL CONDITIONS.

*Isolation Hospital.*—186 cases were admitted into Pant Hospital, viz., Scarlet Fever, 88; Diphtheria 42; Enteric Fever, 47; Puerperal Fever, 1; Erysipelas, 7; and 1 transferred from Mardy Hospital and notified as Small Pox. 12 deaths occurred, 3 from Scarlet Fever, 4 from Diphtheria, 3 from Enteric Fever, 1 from Puerperal Fever, and 1 from Septicæmia following Erysipelas. The new Isolation Hospital was opened on the 23rd March, 1907. The site is on the Mardy Estate, above Plymouth Street, and is 4½ acres in extent, and is enclosed by an oak fence about 6½ feet high. The Hospital is on the pavilion system. The total cost of the buildings, excluding land and furnishing, is about £17,000, and the Council now possess a first-class Isolation Hospital, built and equipped on the most modern lines.

*Refuse Disposal.*—The District is still without a refuse destructor, the refuse being disposed of by tipping as in the past. However, a central site in the Plymouth Ward has now been selected, and at present negotiations for the land are going on. The Committee have narrowed down their selection to either a Hughes & Stirling or a Horsfall type of destructor.

*Housing of the Working Classes Act*—118 houses were represented as unfit under Part II. of this Act. No unhealthy areas have been dealt with under Part I., as the Council consider that this part of the Act is too cumbersome and expensive.

There still remains a large amount of insanitary property in the District.

*Water Supply.*—The new main from the Upper Neuadd Reservoir to Treharris is near completion. An experimental Candy Filter has been erected at the Garth Filter Beds, and the analyses of the water passed through the same were satisfactory, and as a result, the Council are erecting seven of these filters, each 12 feet in diameter, immediately below the intake at the Upper Neuadd Reservoir. A balancing tank has been built at Heolgerrig, which will ensure a more constant supply for this District.

The Council are considering the advisability of building a new dam for the Pentwyn Reservoir, owing to the existing one not being water tight.

*Slaughter Houses.*—These are 37 in number, 35 being in constant use. During the year 717 visits were made by the Inspectors. In order to secure systematic inspection of meat, the Council appointed a Committee to deal with the question of a public abattoir, and the Medical Officer of Health has submitted a report as to what has been done in other towns, and the Borough Surveyor was instructed to report on a suitable site, the one selected being at Rhydycar, which, however, will only be obtainable by a Provisional Order.

*House-to-house Inspection.*—2,192 houses were inspected during the year ; 3,597 nuisances were abated, and 1,946 notices served. 31,871 feet of drains were tested.

*Factories and Workshops.*—There are 382 workshops in the Borough. 269 inspections were made, and 9 notices issued.

### IMPROVEMENTS.

Infectious Diseases Hospital.

The sewerage of Graigberthlwyd and portion of the Park Ward.

### REQUIREMENTS.

Refuse destructors.

A public abattoir.

## MOUNTAIN ASH.

Medical Officer of Health—E. P. EVANS, M.R.C.S., L.R.C.P.

Area in acres, 10,493.

|                            | 1891.             | 1901.                                 | 1906.                       |
|----------------------------|-------------------|---------------------------------------|-----------------------------|
| Population .. ..           | 20,976            | 31,093                                | 41,224 (estimated).         |
| Birth-rate, 35·8.          | Death-rate, 14·6. | Zymotic death-rate, 1·4.              | Infant mortality-rate, 170. |
| Phthisis death-rate, 0·84. |                   | Respiratory diseases death-rate, 1·9. |                             |

### INFECTIOUS DISEASES.

172 cases were notified as compared with 164 in the previous year. These included *Diphtheria* and *Membranous Croup* (65 cases, 12 deaths) ; *Erysipelas* (22 cases) ; *Scarlet Fever* (58 cases) ; *Enteric Fever* (18 cases, 5 deaths) ; and *Puerperal Fever* (9 cases, 1 death).

25 cases were removed to Hospital, viz.—*Diphtheria*, 4 ; *Membranous Croup*, 1 ; *Erysipelas*, 1 ; *Scarlet Fever*, 9 ; and *Enteric Fever*, 10. There were 4 deaths, and 21 were discharged convalescent.

Six deaths occurred from *Measles*, 7 from *Whooping Cough*, and 29 from *Diarrhæa*.

## GENERAL CONDITIONS.

*Water Supply.*—The water supply in the District is abundant.

*Slaughter-houses.*—These are 9 in number. The one at Abercynon has been abandoned. In order to prevent any of the slaughter-houses being used except for slaughtering, a notice has been served, together with a copy of the Council's bye-laws, upon each of the owners. An inspection of the slaughter-houses was made weekly.

*Nuisances.*—962 notices were served on owners and occupiers to abate nuisances, and in most instances these were complied with.

*House-to-house Inspection* is carried on continuously. Overcrowding is less frequent than in the past, owing to increased house accommodation.

*Houses Certified.*—458 new houses were certified, being an increase of 60 on the previous year.

One cellar was condemned and closed as unfit for human habitation.

*Unsound Food.*—The following goods were seized and condemned as unfit for human food :—Herrings, 4 boxes, Hake, 15 lbs., and Cockles, 1 bag.

*Dairies, Cowsheds, and Milkshops.*—These now number 87, an increase of 22 on the previous year. Four notices were served to reconstruct cowsheds, and these were complied with.

*Workshops, etc.*—These were frequently inspected, and notices served as regards limewashing and the abatement of nuisances attended to.

*New Cemetery.*—The Medical Officer of Health inspected a site chosen for a new cemetery, situate to the west of Mountain Ash, and about a quarter-of-a-mile from any dwelling house. The ground is dry, of a gravelly nature, and being on a slope is easily drained. There is no danger of contaminating the water supply, as the gathering area is on a higher level than the proposed site. When the burial ground has been properly arranged and drained, the Medical Officer is of opinion that the place will be suitable for burial purposes.

## IMPROVEMENTS.

Private street improvements have been carried out in Edward, James, Victoria, and Walter Streets, and Tyr Arlwydd Road.

## REQUIREMENTS.

A Small Pox Hospital.

## NEATH BOROUGH.

Medical Officer of Health—J. M. MORRIS, M.B., D.P.H.

Area in acres, 1,161.

|                   | 1891.                      | 1901.                                  | 1906.                         |
|-------------------|----------------------------|--|-------------------------------|
| Population .. ..  | 11,059                     | 13,720                                 | 15,000 (estimated).           |
| Birth-rate, 32·4. | Death-rate, 17·0.          | Zymotic death-rate, 1·93.              | Infant mortality-rate, 116·8. |
|                   | Phthisis death-rate, 2·13. | Respiratory diseases death-rate, 2·53. |                               |

## INFECTIOUS DISEASES.

38 cases were notified as compared with 97 in 1905. These included *Diphtheria and Membranous Croup* (6 cases, 2 deaths) ; *Erysipelas* (19 cases) ; *Scarlet Fever* (10 cases, 1 death) ; and *Enteric Fever* (3 cases).

One death occurred from *Measles*, 1 from *Whooping Cough*, 24 from *Diarrhæa*, and 3 from *Enteritis*.

The town was remarkably free from notifiable infectious diseases, the number of cases, 38, being less than that during any previous year.

*Diarrhæa* was present towards the end of September. *Mumps* was also present to a great extent. Towards the end of the year *Whooping Cough* appeared, and still prevails to a large extent. *Influenza* was wide-spread, more persons suffering from it than in any epidemic of the past eight years.

*Tuberculosis*.—38 deaths occurred from this disease, or nearly one in every six of the total number of deaths.

The Medical Officer of Health, after referring to the Sanatorium erected in the western portion of South Wales, deplores the fact that nothing of a similar kind has been erected in Glamorgan. He suggests that a conference be held of the various Councils and Boards of Guardians in the County with reference to combating this disease.

He further adds—" . . . . The sticking up of bills forbidding spitting, etc., is useless when there is no educated public opinion to support such views, and without action on the part of public bodies, assisted by large contributions from private sources, nothing can be done. . . . Should the Council so desire, I am willing for a period of 12 months to undertake the examination of sputum or such other material as may be presented by medical men of the District for the purpose of discovering the presence of the bacillus of Tubercle."

## GENERAL CONDITIONS.

*Water Supply*.—The rainfall was 57·72 ins., which, excepting 1903, is the heaviest recorded for the District. The water supply was adequate in quantity, there being no necessity to turn it off at any time. On analysis, the quality of the water was found to be satisfactory.



*Housing.*—The supply of houses for the better-paid artizan is said to have increased considerably, Overcrowding is diminishing, and many undesirable houses are rapidly becoming tenantless. Some 26 out of the 100 houses that are being built by the Council are completed, and it is hoped that the remainder will soon be in course of erection.

*Common Lodging Houses and Dairies.*—The sanitary supervision of these is controlled by the Police. The work should be done by the officials of the Health Department.

*Factory Acts.*—The workshops and bakehouses have been frequently inspected.

*Dust Nuisance.*—The Borough Engineer has continued experiments with tar, westrumite, etc., on the roads. The tar process was said to prove of more lasting benefit locally than the others, but it gave no adequate results in places where the traffic was of a heavy nature.

*Midwives Act.*—No case of Puerperal Fever was notified, and much fewer non-notifiable complications of this condition than have been known before. These results are attributed to the beneficent effect of the administration of the Midwives Act, 1902.

The Medical Officer of Health observes—" . . . . There is ample room in Neath for one or two trained midwifery nurses, and, if the Neath Nursing Association is overburdened, and therefore cannot undertake this matter, the time has more than arrived for the formation of another Association to take it up. The whole welfare of the coming generation depends upon careful trained nursing at this period, a fact which is very keenly appreciated amongst the upper classes, who will not trust the lives of their wives and children in the hands of a set of crassly ignorant women."

#### IMPROVEMENTS.

The completion of 26 Corporation houses at Mount Pleasant under Part III. of the Housing of the Working Classes Act.

Increased building of artizans' cottages throughout the town.

#### SUGGESTIONS.

The replacement of several of our present iron conveniences by modern structures, a matter which is urgently required.

The rapid completion of the Municipal houses, and the closing of many "impossible" insanitary dwellings.

The removal of the glass buildings referred to in this and last year's Report.

The consideration of the provision of a Small Pox Hospital.

Hygienic instruction to School Teachers, to enable them to deal with the prevention of diseases, frequently of a loathsome nature, which are disseminated by school attendance.

## OGMORE AND GARW.

Medical Officer of Health—D. J. THOMAS, M.R.C.S., L.R.C.P.

Area in acres, 17,926.

|                   |    |                            | 1891.  |                                       | 1901.  |    | 1906.                         |
|-------------------|----|----------------------------|--------|---------------------------------------|--------|----|-------------------------------|
| Population        | .. | ..                         | 13,080 | ..                                    | 19,907 | .. | 22,800 (estimated).           |
| Birth-rate, 38·6. |    | Death-rate, 14·9.          |        | Zymotic death-rate, 1·71.             |        |    | Infant mortality-rate, 157·7. |
|                   |    | Phthisis death-rate, 0·54. |        | Respiratory diseases death-rate, 3·4. |        |    |                               |

### INFECTIOUS DISEASES.

108 cases were notified, as compared with 97 in the previous year. These included *Diphtheria and Membranous Croup* (19 cases, 4 deaths); *Erysipelas* (20 cases, 1 death); *Scarlet Fever* (45 cases, 1 death); *Enteric Fever* (20 cases, 1 death); and *Puerperal Fever* (4 cases, 1 death).

*Scarlet Fever*.—13 cases occurred in the Ogmores Division—12 in Nantymoel, and 1 in Tynnewydd; no case occurred at Gilfach Goch. The Nantymoel cases extended from March to October, but the disease did not assume the epidemic form. 32 cases occurred in the Garw Division, the greater number of which were notified from Pontycymmer and 3 only from Blaengarw. The disease was of a mild type.

10 cases of *Enteric* were notified in the Ogmores Division, and the same number in the Garw Division, all at Blaengarw. Blaengarw has always been the seat of occasional Typhoid Fever cases, and this is believed to be due to the small leakages in service pipes, and consequent pollution by infected matter from the soil.

*Puerperal Fever*.—No cases occurred in the Ogmores, but 4 were reported in the Garw Valley, viz., 2 at Blaengarw, and 2 at Pontycymmer.

The Medical Officer of Health writes—"In each case the Inspector fumigated the rooms, and the midwives were thoroughly disinfected.

### GENERAL CONDITIONS.

*Water Supply*.—Generally speaking, the water supply is good and wholesome. Samples taken at the source were always found pure, whilst those taken at various houses were found to be of doubtful purity, indicating something wrong between the source and the house. The Garw Company were called upon by the Council, owing to several complaints from Blaengarw, to provide better means of filtration.

*Drainage*.—The Garw Division is now provided with thorough drainage. Further ventilating shafts are needed throughout the District to relieve the pressure on the house traps.

*Slaughter Houses*.—These were frequently visited by the Medical Officer of Health and Sanitary Inspectors, and usually found clean; but their close proximity to dwellings is adversely commented upon. The erection of a public abattoir in each division is warmly advocated. The butcher's shops were constantly visited, but no unsound meat was found.

*Dairies, Cowsheds, and Milkshops.*—These were frequently inspected, and all purveyors of milk were requested by the Council to register themselves.

*Houses unfit for human habitation.*—4 houses at Brynmenyn were closed as unfit for human habitation on the recommendation of the Medical Officer of Health.

*Workshops, etc.*—Some 409 inspections were made, and all sanitary defects remedied without prosecutions.

### IMPROVEMENTS.

Private improvements in Ogmore and Garw—£965.

Sewerage and sewage disposal works—£1,700.

House connections in Garw Division—£1,600.

Public swimming baths, Pontycymmer—£400.

Completion of Garw sewerage scheme—£39,500.

Isolation Hospital at Blackmill completed.

### REQUIREMENTS.

Public abattoirs, as advised for many years.

Extension of Ogmore drainage scheme to join the Garw sewer at Brynmenyn.

Construction of further sewage disposal works at Gilfach Goch.

Refuse destructors in each Valley.

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## OYSTERMOUTH.

Medical Officer of Health—A. LLOYD JONES, M.R.C.S., D.P.H.

Area in acres, 2,615.

|                    | 1891.                      | 1901.                                  | 1906.                         |
|--------------------|----------------------------|--|-------------------------------|
| Population .. ..   | 3,598 ..                   | 4,460 ..                               | 4,780 (estimated).            |
| Birth-rate, 24·68. | Death-rate, 10·66.         | Zymotic death-rate, 0·00.              | Infant mortality-rate, 76·27. |
|                    | Phthisis death-rate, 1·04. | Respiratory diseases death-rate, 0·83. |                               |

### INFECTIOUS DISEASES.

9 cases were notified as compared with 15 in 1905. These included *Diphtheria* (4 cases) ; *Erysipelas* (4 cases) ; and *Puerperal Fever* (1 case).

No cases were removed to the Swansea Hospital during the year.

## GENERAL CONDITIONS.

*Sewerage and Drainage.*—The sewerage of Newton was commenced six years ago, at the top, but has not yet been connected with the main system discharging into the sea. This incomplete sewerage merely covers over a part of the watercourse running from Picketmead and Clyne Common, past Underhill, and conveys the sewage of Nottage, Newwell Lane and Newton Village, to be, in turn, mixed with the surface water of these parts before its deposition on the fields below. Parts of the District drain into cesspools, which are cleaned out at night, as required, by being aspirated into a hermetically sealed drum, and afterwards distributed over agricultural land.

*Water Supply.*—The supply, which is obtained from a private Company, is unfiltered and intermittent. Samples of the water were examined both chemically and bacteriologically, and found unsatisfactory.

*Housing Accommodation.*—The housing accommodation for the working classes is the least adequate, and owing to the increasing cost of labour and of land, it is becoming more difficult to build suitable houses of this class.

15 houses in Village Lane remain condemned and closed as unfit for human habitation, and a supply of cheap houses in their stead is an urgent matter.

*Slaughter Houses.*—There are four in the District, of which two only are registered and licensed, and they are well kept.

*Dairies, Cowsheds, and Milkshops.*—28 persons are registered under the Order. Dairies and milkshops are supervised as regards cleanliness only, and the only check upon the character of the milk supplied is the occasional taking of samples for analysis by the County Police.

*Factory and Workshops.*—There are five retail bakehouses in the District, and these are kept in a satisfactory manner.

*Nuisances.*—24 notices were served by the Sanitary Inspector, and with the exception of two instances were complied with.

*Disinfection.*—There is no public disinfectant in the District, the infected bedding and clothing are sent to the Swansea Fever Hospital. Householders have the option to disinfect themselves to their own medical attendant's satisfaction.

*Isolation Hospital.*—This District is combined with the Gower Sanitary Authority as a Hospital District, but nothing further has been done.

## IMPROVEMENTS.

Extension of the surface water channel in Newton Village.

Construction of a surface water sewer at the Dunns from the main road to the sea, and the insertion of street corner gullies.

The laying of a surface water drain and the filling in of an open culvert in Boarspit Lane.

The building of several new manholes on, and the cleansing of, the main sewer.

The extension of the sewer at the rear of Upper Chapel Street, and house connections therewith.



## REQUIREMENTS.

The carrying out of the recommendations of the expert engineer with regard to the storage tank and outflow pipe of the main sewer, and to the connection of the sewerage system between Castleton and Newton.

The widening of Dunns and Southward Lanes, and the making up of several streets in the District in accordance with the Private Street Works Act, 1892.

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## PENARTH.

Medical Officer of Health—C. D. MUSGROVE, M.D.

Area in acres, 2,798.

|                   |    |                           | 1891.  |  | 1901.  |    | 1906.                      |
|-------------------|----|---------------------------|--------|--|--------|----|----------------------------|
| Population        | .. | ..                        | 12,200 | ..                                     | 14,227 | .. | 15,300 (estimated).        |
| Birth-rate, 25·1. |    | Death-rate, 8·3.          |        | Zymotic death-rate, 0·5.               |        |    | Infant mortality-rate, 80. |
|                   |    | Phthisis death-rate, 0·9. |        | Respiratory diseases death-rate, 1·17. |        |    |                            |

## INFECTIOUS DISEASES.

213 cases were notified as compared with 86 in 1905. These included *Diphtheria* (60 cases, 3 deaths) ; *Erysipelas* (13 cases, 1 death) ; *Scarlet Fever* (136 cases, 2 deaths) ; and *Enteric Fever* (4 cases).

The number of cases of infectious disease notified is higher than it has been for some years, yet the number of deaths from this cause is lower.

With reference to the Scarlet Fever epidemic the Medical Officer of Health observes:—"For the first time for several years there has been an epidemic of Scarlet Fever, fortunately of a very mild type. No cause could be ascertained for the outbreak. At first it was confined almost entirely to children attending the Albert Road Schools, and especially one standard, but afterwards extended to other parts of the town. In order to deal with the epidemic as quickly as possible, I recommended the closure of the Public Schools in Penarth. This was carried out. . . . I also advised that the Sunday Schools of the District should be closed for a period, and in response to letters sent to the various Superintendents by my Council, this was done in all instances except one. I wish to take this opportunity of thanking the officials of the various Sunday Schools for their kind co-operation in this matter."

167 cases were admitted to the Isolation Hospital, 163 recovered, and 4 died.

## GENERAL CONDITIONS.

*Water Supply.*—Samples have been analysed four times during the year at the County Laboratory, and found to be of great purity.

*Dairies, Cowsheds, and Milkshops.*—The cowsheds of the District have been inspected on several occasions, and found to be clean and wholesome.

*Slaughter Houses.*—These were frequently inspected and found to be satisfactory.

*Factory and Workshops Acts.*—There are now 55 workshops on the register, all of which were inspected and the only defect, viz., insufficient sanitary conveniences, was remedied at once.

Appended is the report of the Inspector of Nuisances—in tabular form—indicating the work done during the year.

## IMPROVEMENTS.

Not stated.

## REQUIREMENTS.

Not stated.

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## PONTYPRIDD.

Medical Officer of Health—HOWARD DAVIES, M.R.C.S., L.R.C.P.

Area in acres, 8,033.

|                   |    |                                       | 1891.             |                            | 1901.  |                               | 1906.               |
|-------------------|----|---------------------------------------|-------------------|----------------------------|--------|-------------------------------|---------------------|
| Population        | .. | ..                                    | 19,971 (old area) | ..                         | 32,316 | ..                            | 36,921 (estimated). |
| Birth-rate, 29·7. |    | Death-rate, 13·8.                     |                   | Zymotic death-rate, 1·75.  |        | Infant mortality rate, 164·6. |                     |
|                   |    | Respiratory diseases death-rate, 2·1. |                   | Phthisis death-rate, 0·97. |        |                               |                     |

## INFECTIOUS DISEASES.

239 cases were notified as compared with 344 in 1905. These included *Diphtheria and Membranous Croup* (65 cases, 2 deaths) ; *Scarlet Fever* (91 cases, 1 death) ; *Erysipelas* (28 cases) ; *Enteric Fever* (52 cases, 3 deaths,) ; and *Puerperal Fever* (3 cases, 1 death).

2 deaths occurred from Measles, 3 from *Whooping Cough*, and 54 from *Diarrhœa*.

*Diphtheria.*—64 cases occurred as compared with 95 in 1905. The case-mortality per cent. was also much less, being 3·1 as against 9·4 in the former year. Of the 64 cases, 28 were removed to the Isolation Hospital, all of which recovered. The case mortality for the 36 patients treated at their own homes was 5·5 per cent., whereas that for those treated at the Isolation Hospital was 0 per cent.

*Enteric Fever.*—52 cases were notified during the year, and 3 proved fatal, as compared with 17 cases and 2 deaths in 1905.

*Diarrhœa.*—54 cases occurred from this disease as compared with 48 in 1905. All the fatal cases were amongst children under 5 years of age, the greater majority, 48, being infants under 1 year. The average age of the 48 infants at death was barely 5 months.

### GENERAL CONDITIONS.

*House accommodation.*—199 new houses were occupied during the year, being an increase of 7 on the previous year.

21 dwellings were demolished—18 in consequence of the electric tram lines, and 3 voluntarily on account of dilapidation. Some of the 25 workmen's dwellings built under the Housing of the Working Classes Act, are for occupation. In order to fully utilize the land required three or more houses are being built, thus making 28 in all.

*Sewerage and Drainage.*—Some premises are still unconnected with the public sewers, but these are being dealt with by the Surveyor's Department.

*Removal and Disposal of House Refuse.*—The Council received a series of notices to terminate tipping operations on the insanitary tips on Pantygraigwen, Tramroad, and the Berw, and great difficulty was experienced in finding a site elsewhere, but eventually one was obtained—on sufferance—at Cilfynydd, a distance of  $2\frac{3}{4}$  miles from the centre of the town; steam motors are employed to convey the refuse to this depôt. The early settlement of the destructor question is expected.

*Water Supply.*—This is said to be most unsatisfactory, and in this respect the Medical Officer of Health observes—" . . . . Not only was the water scarce during the summer months, but throughout the year there was marked evidence in the water supplied to the public that scant, if any, attention was paid by the Company to filtration. Besides peat and vegetable matter, which was more or less always present, worms, insects, and lizards were frequently brought to my notice by householders. Upon analysis, the water was always found to contain dissolved lead, being invariably acid or neutral in reaction, thus possessing plumbo-solvent action. . . . . The Pontypridd Waterworks Co. are obligated by their Acts of Parliament to supply the Districts within their area with a pure and wholesome water, thoroughly and efficiently filtered, at all times. Further, it is enacted that the supply should be constant, and not intermittent."

*Dairies, Cowsheds, and Milkshops.*—There are 46 cowkeepers and dairymen in the District; the milk vendors number 52. These premises are regularly visited by the Inspectors, and found fairly clean, limewashing being frequently done. Particulars are given of the measures that should be observed in regard to milk and its delivery.

*Bakehouses.*—These are 21 in number, and are regularly visited and inspected. The few defects discovered were remedied.

*Slaughter Houses.*—There are six private slaughter houses and one public abattoir in the District. These were found on inspection to be kept in a good sanitary condition, due attention being paid to limewashing.

*Common Lodging Houses.*—Three applications for registration as common lodging houses were received during the year, but owing to structural and other defects, the Council declined to sanction the use of two of these as such. In spite of the fact that there is common lodging house accommodation in the town for 283 persons, this does not meet the demand which exists.

*Mortuary, Public Lavatories and Sanitary Conveniences, and Public Baths.*—These have not yet been put in hand, but are urgently needed.

*Offensive Trades.*—Applications were received for licences to establish a fellmonger's and bone boiler's trades, but owing to drainage and structural defects these licences were refused.

### IMPROVEMENTS.

Not specified.

### REQUIREMENTS.

Public lavatories and conveniences.

Refuse destructor.

Mortuary.

Public baths.

Improved water supply.

### PORTHCAWL.

Medical Officer of Health—J. D. ALEXANDER, L.R.C.P., L.F.P.S.

Area in acres, 3,365.

|                  | 1891.                      | 1901.                                 | 1906.                        |
|------------------|----------------------------|---------------------------------------|------------------------------|
| Population .. .. | 1,673                      | 1,871                                 | 2,400 (estimated).           |
| Birth-rate, 190. | Death-rate, 12·8.          | Zymotic death-rate, nil.              | Infant mortality rate, 43·4. |
|                  | Phthisis death-rate, 1·66. | Respiratory diseases death-rate, 0·4. |                              |

### INFECTIOUS DISEASES.

5 cases were notified as against 101 in 1905. These included *Scarlet Fever*, 2 cases; *Diphtheria* (1 case); and *Enteric Fever* (2 cases).

*Typhoid Fever.*—Two cases notified at Newton. The premises and the surroundings, drains, and water supply were immediately inspected by the Medical Officer and Sanitary Inspector, but no cause could be traced.



*Diphtheria*.—Only one case occurred, and this was contracted at Cardiff, and removed to Cardiff Isolation Hospital.

## GENERAL CONDITIONS.

*Scavenging*.—This is carried out by the Council, the street scavenging being completed at 8.30 each morning. The refuse is deposited in the Mercies Quarry, some 240 yards from the nearest dwelling, and is periodically deodorised with lime. The quantity of refuse has increased yearly, but fortunately the local farmers have carted away much of the refuse as manure for their lands, thus providing additional space for tipping purposes.

The refuse of Newton and Nottage is deposited on fields within these Districts, at a good distance from dwellings and without causing a nuisance.

*Slaughter Houses*.—These were periodically inspected, and the nuisances discovered abated.

*Bakehouses*.—The seven bakehouses in the District were inspected from time to time, and notices were served to abate nuisances from structural defects and want of cleanliness.

*Drainage and new Buildings*.—Plans of 37 new buildings were approved of by the Council, and certificates of habitation were granted as regards 22 new houses, and 2 certificates on the renovation of old houses, making the total number of houses in the District, 610.

*Sewerage*.—The sewage of the District gravitates to a storage main and well in the centre of the low-lying District, from which place it is pumped direct into the sea.

*Street Watering*.—Street watering was abandoned during 1906. Nearly all the roads abutting on dwelling houses were treated with a coat of tar painting, giving very satisfactory results, both in preventing nuisances from dust and mud, and in preserving a uniform wearing surface of the roads.

*Camps*.—Only a few of the Monmouth Royal Engineers and Depôt men of the 3rd Welsh Regiment were at Camp at Newton. These were under the care of the Medical Officer of Health, who also had charge of the sanitary arrangements.

## IMPROVEMENTS.

Nant Craig-yr-Aber water scheme (well in hand.)

Abatement of dust nuisance.

Isolation Hospital (well in hand).

## REQUIREMENTS.

Sanitary conveniences for both sexes (a pressing necessity).

## RHONDDA.

Medical Officer of Health—J. D. JENKINS, M.D., B.S., D.P.H.

Area in acres, 23,884.

|                   | 1891.                      | 1901.                                 | 1906.                       |
|-------------------|----------------------------|---------------------------------------|-----------------------------|
| Population .. ..  | 88,351                     | 114,439.                              | 147,684 (estimated).        |
| Birth-rate, 37·2. | Death-rate, 16·2.          | Zymotic death-rate, 2·4.              | Infant mortality-rate, 174. |
|                   | Phthisis death-rate, 0·64. | Respiratory diseases death-rate, 3·5. |                             |

4,751 births were registered as compared with 4,664 in 1905. The “natural increase,” or the excess of births over deaths, amounted to 2,677 persons, and is larger than the corresponding number for 1905 by 415, mainly on account of the deaths being much lower, but partly owing to the number of births being higher in the latter year. As is usual, the number of males born during the year was in excess of the number of females by 63, the respective totals being 2,407 and 2,344.

2,014 deaths were registered, but the corrected number of deaths becomes 2,074, being equal to a death-rate of 16·2, the lowest recorded for at least 27 years, and 3·6 per 1,000 below the average annual rate for the ten previous years, and 3·0 below that for 1905.

## INFECTIOUS DISEASES.

779 cases were notified. These included *Diphtheria and Membranous Croup* (194 cases, 25 deaths); *Erysipelas* (79 cases, 2 deaths); *Scarlet Fever* (362 cases, 9 deaths); *Enteric Fever* (123 cases, 20 deaths); *Continued Fever* (3 cases); and *Puerperal Fever* (18 cases, 8 deaths).

*Measles*.—24 deaths were registered from this disease. In the absence of any unusual prevalence of the disease, no special measures, such as School closure, were considered necessary for the protection of the public health.

*Scarlet Fever*.—The type was of a mild character, only 9 deaths having occurred out of the 362 cases notified, equivalent to a death-rate of 0·07 per 1,000 of the population, and to a fatality-rate of 2·5 per cent. The death-rate from this disease is thus lower than that for England and Wales, as well as that for the 76 great towns. Now that the Council have contracted for the erection of an additional pavilion at the Fever Hospital at Ystrad, they will be better able to cope with cases which cannot possibly be properly isolated at their homes.

*Diphtheria*.—There was a slight increase in the number of cases as compared with 1905. 79 cases, or 40·7 per cent. of the total notified were removed to hospital. The Medical Officer of Health remarks:—“ . . . . As in recent years full advantage was taken of the facilities afforded at the County Laboratory in ascertaining that every patient before his or her discharge from the Hospital had ceased to be a source of infection. I may at this point record the extent of our indebtedness to Dr. W. Williams, the County Medical Officer, and his staff for the promptitude which they show in dealing with this and other similar matters, immediate attention to which is of such importance in the prevention of disease.”

*Typhoid Fever.*—The incidence of this disease was practically 1 case per 1,000. During the first six months, the District was exceptionally free from the disease, for up to the end of June, only 36 cases were notified. In August and the three succeeding months, however, the disease became more prevalent, and in his monthly report for August the Medical Officer of Health states that “in several instances, especially at Trealaw and Edmondstown, evidence points to polluted water as the probable cause of the disease. In both these localities the water supply of the Pontypridd Waterworks Company was inadequate . . . . with the result that water from shallow polluted wells and brooks was utilized.”

*Diarrhæa.*—206 deaths were recorded from this disease. Among the causes are stated to be the youth and consequent inexperience and ignorance of many mothers, the age at marriage of the women of the District being an exceptionally early one; the unfavourable character of the environment of a large number of dwelling houses throughout the District, chiefly their proximity to rubbish tips and unformed roads and lanes in which dust and dirt may accumulate, and the necessity to be as sparing as possible in the use of water during the summer months for the purpose of road watering, flushing, etc., owing to the ever-present need of being compelled through scarcity to put the District on short supply for domestic needs.”

*Puerperal Fever.*—Of the 18 cases notified, 8 died, which is equivalent to a mortality-rate of 44 per cent. Although the figures are somewhat higher than those for 1905, they still furnish evidence of the beneficial results which may be claimed as a result of the administration of the Midwives Act.

#### GENERAL CONDITIONS.

*Sewerage.*—Some 513 houses remain unconnected to the sewers. A considerable number of these consist of isolated farm houses and cottages which cannot be connected except at a prohibitive cost. Two groups of houses, viz., 50 houses at Cwmclydach, Clydach Vale, and about the same number at Appletree, Dinas, need special mention, the slop sewage from the former discharges into the Clydach Brook, whilst the sewage from the latter passes over fields, and thence into the river.

*Scavenging and Refuse Disposal.*—The old insanitary dumping method still obtains, the tips numbering 14, and are scattered throughout the District. Complaints have been made with respect to some of them, particularly of the site near Cemetery Road, Porth, which is within 30 yards of the nearest house, and the Council are trying to do all they can to prevent the nuisance continuing, without abandoning the site altogether.

*Water Supply.*—For many years the character of the Pontypridd Company's supply within the area of the Rhondda Urban District has been unfavourably reported upon, both as regards insufficiency and discolouration, or both. During 1906 the situation became very acute, chiefly as regards inadequacy. The Medical Officer of Health submitted a special report to the Council. The report was fully discussed by the Council, and a copy of it was sent to the Pontypridd Waterworks Company, the reply to which was considered so unsatisfactory that it was unanimously resolved—“That the Council's Solicitor be instructed to take immediate steps to obtain a Mandamus against the Company for that purpose.” In pursuance of this resolution, a writ was served upon the Company on September 13th, 1906. As regards the Council's supply, the Contract has been let to connect Llyn Fawr with the Council's existing storage reservoir at

Treherbert. The tunnel has been commenced, and it will be ready in about 30 months. The number of new services laid on during the year was 375. Information was received from Gilfach Goch and Penygraig as to cases of lead poisoning, in consequence of which a circular was distributed indicating the precautions to be observed by the householders.

*House Accommodation.*—879 new houses were certified as fit for occupation. The Ferndale Coal Company have commenced the demolition of their Huts at Blaenllechau and the erection of others in place of them. This work is being done by instalments so as to avoid the overcrowding which would result if they were all demolished at once.

#### IMPROVEMENTS.

Not specified.

#### REQUIREMENTS.

A better system of Refuse Disposal.

The provision of a more abundant water supply (in hand).

A Small Pox Hospital (in hand).

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# RURAL DISTRICTS.

## COWBRIDGE.

Medical Officer of Health—E. BOOTH MELLER, M.R.C.S., L.R.C.P.

Area in acres, 40,015.

|                   | 1891.                     | 1901.                                 | 1906.                        |
|-------------------|---------------------------|---------------------------------------|------------------------------|
| Population        | 6,072                     | 6,372                                 | 7,800 (estimated).           |
| Birth-rate, 25·8. | Death-rate, 11·2.         | Zymotic death-rate, 0·3.              | Infant mortality-rate, 89·1. |
|                   | Phthisis death-rate, 1·0. | Respiratory diseases death-rate, 1·8. |                              |

### INFECTIOUS DISEASES.

34 cases were notified as compared with 43 in 1905. These included *Diphtheria* (9 cases) ; *Erysipelas* (9 cases) ; *Scarlet Fever* (14 cases) ; and *Enteric Fever* (2 cases).

No deaths occurred from any of these diseases.

One death occurred from *Whooping Cough* and 2 from *Epidemic Influenza*.

The *Scarlet Fever* cases occurred at Pontyclun and Llanharry. Isolated cases of *Diphtheria* at Nash, Llanharan, Colwinstone, Llangan, Troes, Llantwit Major, St. Mary Hill, Llanmaes, and Boverton.

The *Typhoid Fever* cases occurred at Llantwit Major and Llanharan.

The Medical Officer of Health writes :—" . . . . Closure of Sunday Schools should accompany the closing of Public Elementary Schools when required to prevent the extension of epidemics of infectious disease. The very serious dust nuisance now met with during summer on the public roads, caused by motor cars driven at a high rate of speed, is responsible, in my opinion, for many cases of infectious diseases, including consumption, pneumonia, sore throat, ophthalmia, etc."

### GENERAL CONDITIONS.

*Water Supply*.—This is said to be occasionally deficient at St. Donats and Pontyclun. The Llantwit Major scheme has been completed as a cost of £5,605. A scheme to supply St. Hilary at a cost of £5,000, fell through on the ground of expense. This village continues to be as badly off in respect of water supply as ever.

*Drainage*.—The drainage of Llantwit Major needs serious attention from the Council. The existing sewers are quite unfit for the purpose. The septic tank at River Row, Pontyclun, is of little use, the sewage entering the river practically unpurified. The filter tank at Brynna is also stated to be unsatisfactory owing to improper filtering material—clinker—being used.

*Slaughter Houses.*—31 visits have been made to the seven licensed slaughter houses in the District. Unlicensed slaughter houses are still in use at Llantwit Major and Brynna.

*New Houses.*—Plans of 17 new houses were passed.

*Dairies, Cowsheds, and Milkshops.*—27 inspections of dairies and 45 of cowsheds have been made.

*Factories and Workshops.*—These were frequently inspected, and all nuisances discovered were abated.

#### IMPROVEMENTS.

New water supply for Llantwit Major at a cost of £5,605.

Improvements in the water supply at different places effected.

Improvements to sewer-outfalls at Dolau, Brynna, and River Row.

#### REQUIREMENTS.

Scheme of drainage, and public scavenging for Llantwit Major.

Improved water supply for certain villages—notably St. Hilary.

Increased burial accommodation—especially at Llanharan.

Abatement of “dust nuisance” arising from motor traffic.

Isolation Hospital made available for use.

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### GELLIGAER AND RHIGOS.

Medical Officer of Health—W. W. JONES, M.D., D.P.H.

Area in acres, 22,357.

|                   | 1891.                      | 1901.                                 | 1906.                       |
|-------------------|----------------------------|---------------------------------------|-----------------------------|
| Population ..     | 13,715 ..                  | 18,316 ..                             | 26,760 (estimated).         |
| Birth-rate, 39·7. | Death-rate, 15·6.          | Zymotic death-rate, 2·7.              | Infant mortality-rate, 143. |
|                   | Phthisis death-rate, 0·59. | Respiratory diseases death-rate, 3·7. |                             |

#### INFECTIOUS DISEASES.

174 cases were notified as compared with 464 in 1905. These included *Diphtheria* (59 cases, 6 deaths); *Scarlet Fever* (54 cases, 2 deaths); *Erysipelas* (11 cases); *Enteric Fever* (46 cases, 4 deaths); and *Puerperal Fever* (4 cases, 2 deaths).

The number of cases notified is the lowest for many years.

15 deaths occurred from *Measles*, 16 from *Whooping Cough*, 29 from *Diarrhœa*, 7 from *Enteritis*, and 16 from *Phthisis*.

*Scarlet Fever*.—54 cases were notified and 2 deaths occurred, as compared with 73 cases and 1 death in 1905.

*Diphtheria and Membranous Croup*.—59 cases occurred as compared with 342 cases and 30 deaths during 1905.

## GENERAL CONDITIONS.

*Water Supply*.—The chief source of the water supply is from public mains, very few houses indeed having to rely upon springs or wells. The Rhymney and Aber Gas and Water Company have the right to supply practically the whole of the Rhymney Valley (except the Tirphil District) and the Deri and Cylla Valley, while the Bargoed Taff Valley is supplied from the Merthyr Corporation mains. The arrangements for filtering the water at Blaen Rhymney are said to be quite inadequate, and the addition of Polarite Filters recommended.

*Refuse removal*.—The Medical Officer of Health observes—"I regret that I cannot report that steps have been taken to carry out my advice that suitable areas be leased near each village for refuse tips. There are such suitable sites, and less complaint has arisen this year than formerly of scavengers tipping refuse in improper places until warned by the Inspectors, but there have been cases, for instance, only recently at Bargoed. The Council should possess refuse tips of its own, and the Contract should require that all refuse should be tipped there, and nowhere else. Until this is done there will be complaints. . . ."

*Common Lodging Houses*.—These are seven in number, and are regularly inspected.

*Bakehouses*.—These are kept clean and in good order. There is no underground bakehouse in the District.

The *Slaughter Houses* are said to be as a rule well kept, but two of them need constant supervision to prevent them becoming nuisances. One new slaughter house was built and licensed during the year, and this is well equipped.

*Dairies and Cowsheds*.—These are frequently inspected, but they are said to be in many cases unsatisfactory. The Medical Officer of Health is of opinion that all the dairy cows in the County should be subjected to the Tuberculin test, and that a certificate should be forthcoming before the milk from any particular cow should be sold to the public.

*Housing of the Working Classes*.—There are no slums in the District. A certain amount of overcrowding exists at Tirphil and Bedlinog, while there is a great demand for houses at Fochriw. The appointment of a building Inspector to rigidly insist on the building of houses in accordance with the plans passed is strongly advocated.

*Factories and Workshops*.—There are 3 factories and 70 workshops in the District, and these are regularly inspected.

## IMPROVEMENTS.

Piping the water at Rhymney Bridge ; completing of water mains down the valley.

## REQUIREMENTS.

Urban powers.  
 Isolation Hospital, and steam disinfectors.  
 Leasing sites for refuse disposal.  
 Appointment of building Inspector.  
 Better sewage disposal at Deri and Pontlottyn.  
 A complete sewerage scheme for Pengam, Hengoed and the Cylla Valley.  
 Improved water supply for Fochriw, Gelligaer Village and Cylla Valley.  
 Proper lighting and street improvements at Bargoed.  
 Extension of filter-beds at Blaen-Rhymney.

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## GOWER.

Medical Officer of Health—ALFRED E. MOLE, M.B., C.M.

Area in acres, 38,124.

|                  |  |  | 1891.                     |    |       | 1901.                                 |       |    | 1906.                        |
|------------------|--|--|---------------------------|----|-------|---------------------------------------|-------|----|------------------------------|
| Population       |  |  | ..                        | .. | 7,432 | ..                                    | 7,266 | .. | 7,266 (estimated).           |
| Birth-rate, 29·9 |  |  | Death-rate, 14·5          |    |       | Zymotic death-rate, 0·2.              |       |    | Infant mortality-rate, 57·1. |
|                  |  |  | Phthisis death-rate, 0·2. |    |       | Respiratory diseases death-rate, 2·7. |       |    |                              |

## INFECTIOUS DISEASES.

14 cases were notified as compared with 22 in the previous year. These included *Diphtheria* (7 cases) ; *Erysipelas* (2 cases) ; *Scarlet Fever* (4 cases) ; and *Enteric Fever* (1 case). No death occurred from any of these diseases.

An epidemic of *Measles* occurred at Llanmadoc, Llanrhidian Lower, Penmaen, and Blackpill, and the Schools were closed. The notification of the first case is advocated as a means of controlling the disease.

Rhosilly School was closed on account of *Impetigo Contagiosum*. The Medical Officer of Health recommends that Teachers in Elementary Schools should be empowered to exclude from School all children they suspect to be affected with this complaint.

## GENERAL CONDITIONS.

*Isolation Hospital*.—This question is still *sub judice*.

*Slaughter Houses*.—These were frequently inspected. In the majority there is a good water supply and drainage. The clause as to covered utensils is not strictly enforced.



*Water Supply.*—This is said to be sufficient and fairly good, but in many cases water has to be carried a great distance in pitchers, buckets, etc., and in many other instances roof collected rain water is used for drinking purposes. Samples of water were taken for analysis from different places, and with the exception of that from Porteynon Well, were reported as favourable. This well was subsequently cleansed and alterations made, and on another sample being submitted for analysis the water was reported to be “rather hard, otherwise a good drinking water.”

*Sewage Disposal.*—The privy midden system is the chief method; in some cases, however, earth closets are used. Many houses have no closet at all. The inhabitants are urged to keep their closets in a sanitary condition.

*Disinfection* is carried out by fumigation, and the washing of floors, walls, etc., and limewashing.

### IMPROVEMENTS.

Repairs to pumps at Killay, Pyle, Barland, and Poundfold Wells.

Repairs to wells at Bankbach, Wernffrwd, Llotrog, Mill and Overton.

Improvements at Cefn Bychan Well.

### REQUIREMENTS.

Improved water supplies in various places.

The provision of closet accommodation to many houses.

Isolation Hospital accommodation.

Adequate water supplies for Llanrhidan Higher, Knelston, Horton, Scurlage Castle, &c.

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## LLANDAFF AND DINAS POWIS.

Medical Officer of Health—RICHARD PRICHARD, M.D., D.P.H.

Area in acres, 65,469.

|            |    |    |        |    |        |    |                     |
|------------|----|----|--------|----|--------|----|---------------------|
|            |    |    | 1891.  |    | 1901.  |    | 1906.               |
| Population | .. | .. | 18,539 | .. | 23,504 | .. | 25,841 (estimated). |

|                    |                            |  |                            |
|--------------------|----------------------------|--|----------------------------|
| Birth-rate, 28·44. | Death-rate, 12·18.         | Zymotic death-rate, 1·23.              | Infant mortality-rate, 95. |
|                    | Phthisis death-rate, 0·92. | Respiratory diseases death-rate, 1·89. |                            |

### INFECTIOUS DISEASES.

261 cases were notified as compared with 348 in 1905. These included *Diphtheria and Membranous Croup* (70 cases, 3 deaths); *Scarlet Fever* (95 cases, 2 deaths); *Enteric Fever* (11 cases, 2 deaths); *Puerperal Fever* (2 cases, 1 death); *Whooping Cough* (62 cases, 5 deaths); *Phthisis* (voluntary) (2 cases); and *Erysipelas* (19 cases).

Two deaths occurred from *Measles*, 18 from *Diarrhœa*, 4 from *Enteritis*.

The death-rate from *Measles* was 0·7 per 1,000 of the population. The disease was prevalent at Lower Pentyrch during January. On the 5th December the Machen Schools were closed on account of this disease.

*Scarlet Fever*.—Fourteen parishes were invaded by this disease, but with the exception of Llandaff, Rudry, and Pentyrch, they were mostly isolated cases. 20 cases were removed to the Isolation Hospital, all of which recovered. There were no “return cases” of Scarlet Fever or other notifiable disease in houses to which persons had returned from Hospital.

*Whooping Cough* affected 11 parishes, but almost wholly in the first four months of the year.

*Diphtheria*.—The case-mortality from this disease was 4·28 per cent. The Medical Officer of Health observes—“ . . . It is greatly to be deplored that the serum is not universally used. In two of the fatal cases no serum was injected, and in the other only on arrival of the child in Hospital on the sixth day of the disease. This patient died in the third week from paralysis caused by the toxins which the serum could not neutralise. It has been found that the anti-diphtheritic serum is only capable of neutralising so much of the poison as has been absorbed within about 30 hours of its injection. Hence the immense importance of its early administration.”

*Enteric Fever*.—The case-mortality from this disease was 18·1 per cent., and the death-rate ·07 per 1,000 living.

*Isolation Hospital*.—The total number of patients admitted to the Radyr Hospital was 63. These included 29 cases of *Diphtheria*, 28 *Scarlet Fever*, and 6 of *Typhoid Fever*. At times the accommodation was too small for those who sought to be admitted, but this difficulty will be remedied in the new building. *Nearly every case admitted last year was at the request of the parents through the medical attendant.*

#### GENERAL CONDITIONS.

*Water Supply*.—Systematic inspection of the wells and pumps has been carried out by the Inspectors. Several extensions of water mains have been effected owing to building operations or deficiency of the existing supply. Water from the Barry District mains have been laid on to the ten houses known as Ferndale Terrace, Rhose. Considerably more than one-half the population of the Rural Districts now derive their water supply from the public mains within the Cardiff or Barry areas of supply.

The Pentyrch water supply had to be carefully attended to during the summer months, and in September it was intermittent. The question of augmenting the present service to Penygarn and Pentyrch villages was again under consideration, and the Surveyor submitted three schemes:—

- 1.—A supply taken from the Cardiff Corporation mains at the highest gravitation level, and pumping the water into a storage tank to be erected on Cefn Bychan, and then distributed through the present mains.
- 2.—To impound the water now running to waste at Ffynon Gryffydd, pump, store, and distribute as in Scheme I.
- 3.—To provide additional storage for the water overflowing from the present reservoir on the Garth Mountain, with filters, &c.

*Sewerage and Drainage.*—The Ely Sewerage Works were completed in the beginning of the summer. The sewage of Fairwater Grove and Ely is brought down to the works by a 15-inch iron outfall drain. The works cover an area of four acres. There the sewage is pumped by means of three gas engines into a pair of septic tanks, covered and ventilated. The tanks have a capacity of 77,340 gallons. There are four filters for sewage proper, and two storm water filters. The former have a surface area of 1,263 super. yards, and the storm filters 615 yards. In addition to the filters, 2½ acres are laid out for passing the effluent over on its way to the adjoining tidal stream, the Ely River. These works provide for double the present population.

*Housing of the Working Classes.*—Five cases of overcrowding were abated, one only after legal proceedings. One house was closed as unfit for human habitation, but some others were vacated through disrepair.

169 new houses were built and water certificates granted.

*Scavenging.*—This work has been satisfactorily done. Radyr is scavenged thrice weekly.

*Dairies, Cowsheds, and Milkshops.*—These have been regularly inspected and the bye-laws enforced. The Medical Officer of Health observes—" . . . There is also gross want of cleanliness to be observed in the delivery or retail of the milk. Any kind of coat or waterproof—no matter how dirty—is deemed to be suitable for the person handling the milk, and every time he indulges in the prevalent and reprehensible practice of dipping the measure into the churn he adds a quantity of filth and decomposable organic matter to the milk. This question of pure milk supply is an urgent one, and is within the range of practical politics."

*Offensive Trades.*—Complaints were received about the knackery at Caerau, and the Medical Officer of Health, on inspecting the premises, found that the escape of steam during the boiling process was the cause. This pipe was made to conduct the steam from the top of the boilers through the fire, and no further nuisance has occurred.

*Burial Grounds.*—The Medical Officer of Health states that in his opinion the Churchyards of Penttyrch and St. Andrews are so overcrowded as to be a source of danger to the public health.

#### IMPROVEMENTS.

Extensions of water mains in parts of the District.

Extension of sewers.

Ely sewerage works completed ; several extensions.

#### REQUIREMENTS.

Not stated.

# LLANTRISANT AND LLANTWIT FARDRE.

Medical Officer of Health—W. NAUNTON DAVIES, M.D.

Area in acres, 18,232.

|                  | 1891.    | 1901.     | 1906.               |
|------------------|----------|-----------|---------------------|
| Population .. .. | 8,509 .. | 11,846 .. | 12,097 (estimated). |

|                   |                            |                                       |                             |
|-------------------|----------------------------|---------------------------------------|-----------------------------|
| Birth-rate, 37·4. | Death-rate, 15·5.          | Zymotic death-rate, 1·65.             | Infant mortality-rate, 123. |
|                   | Phthisis death-rate, 0·66. | Respiratory diseases death-rate, 2·8. |                             |

## INFECTIOUS DISEASES.

73 cases were notified as compared with 94 in 1905. These included *Diphtheria and Membranous Croup* (24 cases, 5 deaths) ; *Erysipelas* (10 cases) ; *Scarlet Fever* (24 cases) ; *Enteric Fever* (11 cases, 1 death) ; *Continued Fever* (1 case, 1 death) ; and *Puerperal Fever* (3 cases, 1 death).

Five deaths occurred from *Whooping Cough* and 1 from *Diarrhæa*.

## GENERAL CONDITIONS.

*Water Supply*.—In most parts of the District the supply is satisfactory, but in others the water is obtained from surface wells open to pollution, viz., as Penrhiwfer, Efail Isaf, Pencoeedcae, and Rhiwsaeson.

*Houses unfit for Habitation*.—Several houses of this kind are said to exist.

*Slaughter Houses*.—Generally speaking, these are badly paved and drained, inadequately supplied with water, and are so scattered that meat inspection is impracticable.

*Lodging Houses*.—There are no registered houses in the District, but many old insanitary houses are still used for the purpose.

*Bakehouses*.—These are well kept, clean, and have a good water supply.

*Isolation Hospital*.—This was opened in August, and at present accommodates only *Diphtheria* and *Enteric Fever* cases, but it is hoped to add another Ward for *Scarlet Fever* patients. 10 cases were admitted during the year—4 of *Enteric* and 6 of *Diphthreia*, and all were discharged cured.

*Schools Closed*.—The Gilfach Goch and Tonyrefail Schools were closed for some weeks owing to *Whooping Cough*.

*House-to-house Inspection*.—Some 725 houses were inspected during the year ; and 155 re-inspected., Legal proceedings were taken in 2 instances.



## IMPROVEMENTS.

Extension of water mains to Beddau and Gilfach Road, Tonyrefail.  
Completion of Isolation Hospital.  
Improvement to causeways at Llantwit Fardre, Tonyrefail, and Gilfach Goch.  
Sewerage of Pencoedcae, Cross Inn Road, and Danygraig, Llantrisant.  
Extension of Llantrisant Common sewer outfall and New Park outfall.  
Erection of two public urinals at Llantrisant and one at Tonyrefail.  
Extension of Sewerage from Church Village to Llantrisant.  
Total cost of above works, £2,802.

## REQUIREMENTS.

Not enumerated.

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## NEATH.

Medical Officer of Health—T. P. WHITTINGTON, L.R.C.P., L.R.C.S.

Area in acres, 33,507.

|                    | 1891.                     | 1901.                                  | 1906.                       |
|--------------------|---------------------------|--|-----------------------------|
| Population         | 23,953                    | 27,343                                 | 28,021 (estimated).         |
| Birth-rate, 40·85. | Death-rate, 17·41.        | Zymotic death-rate, 1·4.               | Infant mortality-rate, 131. |
|                    | Phthisis death-rate, 1·3. | Respiratory diseases death-rate, 3·06. |                             |

## INFECTIOUS DISEASES.

162 cases were notified as compared with 239 in 1905. These included *Diphtheria and Membranous Croup* (28 cases, 6 deaths) ; *Erysipelas* (26 cases) ; *Scarlet Fever* (96 cases, 3 deaths) ; *Enteric Fever* (10 cases, 2 deaths) ; and *Puerperal Fever* (2 cases, 1 death).

*Measles*.—In March, the Fforest Schools, Aberdylais, were closed owing to an epidemic of this disease. In May the Tonna Schools were closed for the same reason, as also were the Onllwyn Schools in July.

*Scarlet Fever*.—The Medical Officer of Health writes—" . . . . In April, the School at Crynant was closed owing to Scarlet Fever amongst the scholars, the School Master's child being one of the patients. The disease was probably imported, but on examination, I found that the School closets were cleaned only once in six months, instead of once a month as they should be ; also the School was very much overcrowded, and it was arranged that on the re-opening, 60 of the infants were to be taken to Salem Chapel Vestry for instruction ; this was done, and meanwhile a new Schoolhouse is being built for their accommodation."

*Diphtheria*.—In June, several cases were notified from Seven Sisters, and in one street there was an epidemic of sore throats, caused, it is believed, by the open gutter belonging to the Council. This gutter, which conveys slop sewage to the river, had been allowed to become filled with filth. On the recommendation of the Medical Officer of Health, this was cleaned out and replaced by a piped drain, and much improvement resulted.

## GENERAL CONDITIONS.

*Water Supply*.—The waterworks in the Dringarth Valley are progressing satisfactorily, and when completed, will give the District an ample supply of water.

*Dairies, Cowsheds, and Milkshops*.—These, some 159 in number, were regularly visited, and found in a satisfactory condition.

*Factories and Workshops*.—These were inspected from time to time, and attention paid to their ventilation and sanitary arrangements.

## IMPROVEMENTS.

Extensions of sewers and water mains in various parts of the District.

## REQUIREMENTS.

A scheme of sewerage and sewage disposal works for Resolven, Seven Sisters, Cwmavon, Glyn Neath, and Cadoxton.

Improved water supply for the whole district (works in hand).

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## PENYBONT.

Medical Officer of Health—WYNDHAM RANDALL, M.R.C.S., L.R.C.P.

Area in acres, 41,632.

|                   | 1891.                      | 1901.                                 | 1906.                       |
|-------------------|----------------------------|---------------------------------------|-----------------------------|
| Population .. ..  | 13,194                     | 14,581                                | 16,014 (estimated).         |
| Birth-rate, 31·2. | Death-rate, 13·61.         | Zymotic death-rate, 0·87.             | Infant mortality-rate, 116. |
|                   | Phthisis death-rate, 0·68. | Respiratory diseases death-rate, 2·9. |                             |

## INFECTIOUS DISEASES.

87 cases were notified, as compared with 101 in 1905. These included *Diphtheria* (25 cases, 5 deaths); *Scarlet Fever* (42 cases, 1 death); *Enteric Fever* (3 cases, 1 death); *Puerperal Fever* (2 cases, 2 deaths); and *Erysipelas* (16 cases).

Four deaths occurred from *Whooping Cough*, 4 from *Epidemic Influenza*, 3 from *Diarrhæa*, and 3 from *Enteritis*.

*Diphtheria*.—The majority of the cases were associated with School life. The number of cases under five years was 13; between the ages of five and fifteen, 7; and of the other cases, they were almost all infected by the children who came home ill from School. Leaflets of instructions were distributed to each house at the time of inspection.

*Scarlet Fever*.—1 death occurred from this disease.

*Enteric Fever*.—One death occurred from this disease. Of the 3 cases, 1 was at Cwinfelin, 1 at Bryncethin, and 1 at Penyfai; these three cases being widely distributed in time and place, and not connected with any further outbreak.

### GENERAL CONDITIONS.

*Water Supply*.—Wells have been repaired in various parts of the District. Water schemes are prepared for Pencoed, and an agreement has been made with the owner for a 50 years lease, at a rent of £20 per annum, also for Heol-y-Cyw. Plans and estimates have been submitted to the Local Government Board.

*Sewerage and Drainage*.—Subsidiary sewers have been provided for St. Brides Minor, Brynmenin, Tondy, and Aberkenfig, and the drains of about 778 houses have been connected therewith. Sewerage schemes are under consideration for Kenfig Hill, Tythegstone Higher, and Pyle. A Local Government Board Inquiry has been held in order to carry out a sewerage scheme for Troedrhigarth, and the scheme has been generally approved. Schemes of sewerage are much needed for certain villages.

*Slaughter Houses*.—The slaughter houses at Aberkenfig are said to be always unsatisfactory and the erection of a public abattoir a prime necessity.

*House accommodation*.—53 new houses have been built and occupied, 28 are in course of construction, and 3 rebuilt. Four houses were closed as unfit for occupation, and five were vacant.

*Scavenging*.—The scavenging arrangements at Aberkenfig are said to have been improved, the streets being scavenged thrice weekly. Some of the other villages are supplied with dust-bins, which are emptied by neighbouring farmers. However, many of these dust-bins have been removed as causing a nuisance.

*Dairies, Cowsheds, and Milkshops*.—Regulations under the Dairies, Cowsheds, and Milkshops Order of 1885 have been adopted, and will be enforced from 1st April, 1907. Frequent inspections have been made as in the past.

*Factory and Workshops Act*.—The bakehouses and workshops have been inspected and their condition found to be satisfactory.

### IMPROVEMENTS.

The construction of several wells in various parts of the District.

Plans and estimates prepared and submitted to Local Government Board for a water scheme to supply Llangynwyd, Troedrhigarth, and Pontrhydydyff. Inquiry has been held and scheme approved.

Schemes of sewerage under consideration for the Parishes of Tythegston Higher and Pyle.

Several extensions of sewers and water mains.

The naming of streets and numbering of houses at Troedrhwiwgarth.

Regulations have been adopted under the Dairies, Cowsheds, and Milkshops Order..

### REQUIREMENTS.

Sewerage works for Pencoed, etc.

The reconstruction of all ill-constructed closets.

The closure or repair of dilapidated dwellings.

Improved water supply for various parts of the District.

A public slaughter house at Aberkenfig.

### THE COUNTY ASYLUM.

The County Asylum is situated in the Penybont District, and below are given the statistics having reference to it.

Area in acres, 284·5.

Density of population, 6·98.

Angelton, 82, Density, 10·70.

Parc Gwyllt, 202·5, Density, 5·49.

|            | 1891. |    |    | 1901. |    |       | 1906. |        |  |
|------------|-------|----|----|-------|----|-------|-------|--------|--|
| Population | ..    | .. | .. | 1,137 | .. | 1,983 | ..    | 1,990. |  |

Birth-rate, 2·06 ; Zymotic death-rate, 0·00 ; Enteritis, 1·51 ; Influenza, 0·00 ; Phthisis, 17·09 ; other Tubercular Diseases, 1·51 ; Cancer, 0·50 ; Bronchitis, 0·00 ; Pneumonia, 4·02 ; other Respiratory Diseases, 0·00 ; Heart Diseases, 13·57 ; Kindey Diseases, 11·56 ; Nervous, 32·66 ; Senile Decay, 10·55 ; Strangulated Hernia, 1·01 ; and total deaths from all causes, 94.

As the majority of the reports under review do not give particulars of the deaths of persons from their Districts at this Asylum, it is evident that the various death-rates are not correct as regards the Districts from which this information is omitted.



## PONTARDAWE (Eastern Division.)

Medical Officer of Health—DAVID THOMAS, M.D.

Area in acres, 10,352.

|            |    |    | 1891. |    | 1901. |    | 1906.               |
|------------|----|----|-------|----|-------|----|---------------------|
| Population | .. | .. | 7,201 | .. | 9,027 | .. | 10,700 (estimated). |

Birth-rate, 39·0.      Death-rate, 17·5.      Zymotic death-rate, 0·55.      Infant mortality-rate, 168·3.  
 Phthisis death-rate, 0·74.      Respiratory diseases death-rate, 2·9.

### INFECTIOUS DISEASES.

Six cases were notified as compared with 23 in 1905. These included *Diphtheria* (1 case, 1 death) ; *Erysipelas* (3 cases) ; and *Scarlet Fever* (2 cases).

No death occurred from these diseases.

One death occurred from *Measles* and 4 from *Diarrhæa*.

With reference to infantile mortality, the Medical Officer of Health writes—" . . . . In common with most industrial localities excessive mortality among infants continues to be the most unsatisfactory feature of this Division. As this is largely attributed to defective sanitation, with neglect and ignorance in nursing and artificial feeding, it is to be hoped the leaflets recently printed and distributed at the expense of the Council giving hints on nursing and feeding will before long produce some better statistical results."

### GENERAL CONDITIONS.

*Housing of the Working Classes.*—Owing to complaints made as to the insanitary condition of a great many dwellings, the Council resolved to make an application to the County Council for a certificate to enable them to put in force Part III. of the Housing of the Working Classes Act, 1890, throughout the District. As the circumstances referred mainly to Ystalyfera, the Medical Officer was requested to prepare a report on that locality.

On October 25th, 1906, a Committee, consisting of County Councillors Sir J. T. D. Llewelyn, Bart., T. H. Morris, and D. J. Thomas, held an Inquiry at Ystalyfera, when a report was presented.

After hearing evidence on both sides from several members of the District Council, the Committee reported :—" That, having regard to the apparently small number of inhabitants to a house in the locality of Ystalyfera, which may be assumed to be selected as the most crowded and insanitary part of the District, and to the fact that a great deal of building is being carried out by private enterprise, they feel unable to report that there is a case made out for putting Part III. of the Housing of the Working Classes Act into force in the District, or that private enterprise is insufficient to enable the supply of house accommodation for this class to be carried out in due proportion to the growth of the population in that District."

*Slaughter Houses.*—All these—14 in number—are kept in conformity with the Council's bye-laws. Circulars have recently been served on all occupiers of slaughter houses warning them that they should not, under any circumstances, slaughter any animal not intended for human food on their licensed premises.

*Common Lodging House.*—The only house so used has been frequently inspected.

*Scavenging.*—This has been efficiently carried out.

*Dairies, Cowsheds, and Milkshops.*—These have been frequently inspected and all nuisances abated. Only one house was closed during the year.

### IMPROVEMENTS.

New sewers at Cwmgorse, Ystalyfera, and Gwaencaegurwen.

New water mains (Cray supply) Ystalyfera to Gwaencaegurwen.

Caegurwen street lighting, 45 electric lamps.

### REQUIREMENTS.

Not specified.

## PONTARDAWE (Western Division.)

Medical Officer of Health—GRIFFITH GRIFFITHS, M.R.C.S., L.R.C.P.

Area in acres, 25,356.

|                   | 1891.                     | 1901.                                 | 1906.                       |
|-------------------|---------------------------|---------------------------------------|-----------------------------|
| Population .. ..  | 10,174                    | 11,904                                | 13,205 (estimated).         |
| Birth-rate, 35·7. | Death-rate, 14·9.         | Zymotic death-rate, 0·6.              | Infant mortality-rate, 137. |
|                   | Phthisis death-rate, 0·9. | Respiratory diseases death-rate, 3·2. |                             |

### INFECTIOUS DISEASES.

97 cases were notified as compared with 131 in 1905. These included *Diphtheria and Membranous Croup* (14 cases, 3 deaths); *Erysipelas* (15 cases); *Scarlet Fever* (62 cases); *Enteric Fever* (5 cases); and *Puerperal Fever* (1 case, 1 death).

It is worthy of note that of the 62 cases of *Scarlet Fever*, not a single death occurred.

As regards the *Infantile Mortality*, the Medical Officer of Health writes:—"The Infantile Mortality totals this year 137. The high rate is in a measure accounted for by there being registered 12 premature births, and 2 congenital defects, making a total of 14. Had such not taken place, our Infantile Mortality-rate would have stood at 108 per 1,000 births."

## GENERAL CONDITIONS.

*Water Supply.*—Samples have been periodically examined and found satisfactory.

*Slaughter Houses.*—The 17 premises used as such were inspected some 96 times, and found satisfactory.

*Scavenging.*—This has regularly been carried out by day; the night scavenging at Pontardawe has been discontinued, as all the houses are now connected with the public sewers, but the night scavenging is still carried out at Clydach.

*Dairies, Cowsheds, and Milkshops* have been regularly inspected and found in good condition.

*Workshops.*—The 71 workshops on the register were periodically inspected, and found in a satisfactory state.

## IMPROVEMENTS.

New sewers at Brecon Road and Old Road, Ynysmudw, and as Ynysderw Road and Primrose Row.

Extensions of water mains in Clydach and Trebanos.

New water main (Alltwen Hill, Llanguicke and Cilybebyll jointly)

New water mains, Smithfield, Pontardawe.

Gwrhyd Small Pox Hospital (removed from Ystalyfera).

Trebanos Street Lighting. New lamps.

## REQUIREMENTS.

(a) The sewerage and sewage disposal works for Clydach and Ystalyfera.

(b) A few public urinals throughout the District.

## SWANSEA (Llandilo-Talybont Division.)

Medical Officer of Health—TRAFFORD MITCHELL, M.D., D.P.H.

Area in acres, 21,313.

|                   | 1891.                      | 1901.                                 | 1906.                       |
|-------------------|----------------------------|---------------------------------------|-----------------------------|
| Population .. ..  | 17,643                     | 19,782.                               | 22,370 (estimated).         |
| Birth-rate, 31·7. | Death-rate, 12·9.          | Zymotic death-rate, 0·93.             | Infant mortality-rate, 136. |
|                   | Phthisis death-rate, 0·98. | Respiratory diseases death-rate, 1·74 |                             |

## INFECTIOUS DISEASES.

160 cases were notified as against 243 in 1905. These included *Diphtheria* (56 cases, 1 death); *Scarlet Fever* (55 cases, 2 deaths); *Typhoid Fever* (34 cases, 3 deaths); *Erysipelas* (13 cases); and *Puerperal Fever* (2 cases, 1 death).

*Diphtheria*.—Of the 56 cases notified, 55 were removed to Hospital, the other proving fatal before the notification was received. All the cases treated at the Hospital recovered. The only extensive outbreak occurred at Gorseinon, and the Schools had to be closed.

*Scarlet Fever*.—Of the 55 cases, 42 were removed to Hospital, including 4 from dairy farms, the cases being scattered over the whole District. Two deaths occurred, one being at the Hospital.

*Enteric Fever*.—Of the 34 cases notified, 5 contracted the disease in other Districts. The other cases were chiefly of the ambulatory and abortive types, the Medical Officer of Health being among those affected.

*Measles* was very prevalent in Swansea and the portion of this District bordering on Swansea, and it was found necessary to close the Tirdeunaw Schools.

*Whooping Cough* prevailed to a great extent over the whole District, and 5 deaths resulted.

*Isolation Hospital, Garngoch*.—56 cases of *Diphtheria*, 43 of *Scarlet Fever*, and 19 of *Typhoid* were treated here, and only 3 died.

#### GENERAL CONDITIONS.

*Water Supply*.—This is said to be, as a whole, thoroughly *unsatisfactory*, that of Gorseinon being particularly bad, and those of Pontardulais, Loughor, Gowerton, etc., utterly inadequate.

*Drainage*.—Sketty is in urgent need of sewers; and the condition of Pontardulais in this respect is stated to be disgraceful. The state of Gorseinon is said to be horribly insanitary, and the Council framed a scheme and applied for power to borrow. The Local Government Board held an Inquiry on May 1st, 1906, the result of which has not yet come to hand.

*Scavenging and the disposal of Refuse*.—Pail closets are in general use; these are emptied weekly. A daily removal is recommended for Gorseinon, and twice weekly for Pontardulais, Sketty, and Gowerton.

*Housing of the Working Classes*.—56 houses were reported as unfit for human habitation, and of these, 7 were demolished, 11 closed, and 10 rendered fit for habitation, 10 are in process of repair, and 18 have not yet been attended to.

253 new houses were erected during the year, and many others are in course of construction. The supply is quite inadequate in Gorseinon, Killay, and Dunvant, owing to industrial developments; the number of lodgers is excessive in many parts, and 14 cases of overcrowding were discovered and remedied.

*Slaughter Houses*.—These, some 20 in number, are frequently inspected, and their condition found to be satisfactory.

*Offensive Trades*.—The premises so used are improving, yet their condition is far from being satisfactory.



*Factory and Workshops Acts.*—The 189 workshops and workplaces were frequently visited and found to be satisfactory. Some 26 notices were served in connection with these, to cleanse, limewash, and purify, and these were complied with.

Appended is a list, in tabular form, of the work done by the Inspectors of Nuisances.

#### IMPROVEMENTS.

Not stated.

#### REQUIREMENTS.

Improved water supply for various localities.

Sewerage works for various localities.

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### SWANSEA (Llangyfelach Division).

Medical Officer of Health—E. RICE MORGAN, M.R.C.S., L.S.A.

Area in acres, 9,803.

|                   | 1891.                      | 1901.                                | 1906.                       |
|-------------------|----------------------------|--------------------------------------|-----------------------------|
| Population .. ..  | 10,528                     | 10,208                               | 10,998 (estimated).         |
| Birth-rate, 31·6. | Death-rate, 13·5.          | Zymotic death-rate, 1·66.            | Infant mortality-rate, 117. |
|                   | Phthisis death-rate, 0·54. | Respiratory diseases death-rate, 1·4 |                             |

#### INFECTIOUS DISEASES.

38 cases were notified as compared with 102 in 1905. These included *Diphtheria and Membranous Croup* (18 cases, 6 deaths); *Erysipelas* (2 cases); *Scarlet Fever* (13 cases, 1 death); and *Enteric Fever* (5 cases, 1 death).

Nine deaths occurred from *Measles*; 1 from *Whooping Cough*.

*Measles* was prevalent about Llwynbrwyddran to such an extent that in January the public Schools had to be closed. During May, the Cwmrhydyceirw Schools had to be closed owing to *Measles*; in June the Llangyfelach Schools were closed for the same reason; and in July the Ynystawe and Bwlfa Schools were also closed.

*Scarlet Fever.*—Only 13 cases were notified, 9 in Clase and 4 in Llansamlet, only 1 death occurring, the disease being of a mild type.

*Diphtheria and Membranous Croup.*—17 cases were notified, 11 in Clase and 6 in Llansamlet.

*Enteric Fever.*—5 cases occurred, 2 in Clase and 3 in Llansamlet, 1 death resulting in Clase.

## GENERAL CONDITIONS.

*Water Supply.*—A better supply is needed for Cwmrhydyceirw and the vicinity, there being only one standpipe in the District. The arrangements for the supply of Pantlasse are still in abeyance, as are also those for Llansamlet.

*Drainage.*—The necessity for the drainage of Grove Terrace and Tycanol Terrace in Clase is emphasised.

*Workshops.*—These are periodically inspected, and, generally speaking, are found satisfactory.

## IMPROVEMENTS.

Not stated.

## REQUIREMENTS.

A better water supply for Cwmrhydyceirw, Pantlasse, and Llansamlet.

The drainage of Tycanol and Grove Terrace, Clase.

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# PORT SANITARY DISTRICTS.

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## CARDIFF.

Medical Officer of Health—E. WALFORD, M.D., D.P.H.

The Port Sanitary Authority of Cardiff was constituted in the year 1882, and the only portion of the Administrative County of Glamorgan under the jurisdiction of this Authority is Penarth Dock.

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## PENARTH DOCK.

### INFECTIOUS DISEASES.

All vessels are boarded on arrival, whether from foreign or coastwise, and enquiries made as to the health of the crew, and if there is or has been any sickness on the voyage, a copy of Regulations as to Infectious Diseases is handed to every Master. In addition to tide work, the Inspector on day duty also visits and examines the ships in docks, etc., On February 11th, C. E., aged 22 years, third mate of the British S.S. "Belfast" was taken ill five days after arrival in Penarth Dock, and on examination, he was found to be suffering from Measles. He was forthwith removed to the Sanatorium, and his berth and effects disinfected. No other case occurred on board during the vessel's stay in port. On 29th June, the mate of the S.S. "Szent" was notified as suffering from Erysipelas, and he was removed to the Sanatorium, and his berth and effects were disinfected. On 8th September, the steward of the Norwegian barque "Magnat" was found to be suffering from Acne, and medical treatment was recommended. On 9th October, a seaman on the British S.S. "Dunsley" was removed to Hospital suffering from Tonsillitis. On 10th October the third engineer of the British S.S. "Cairnmore" was found to be suffering from Pleurisy, and on 12th October, a fireman on board the British S.S. "Peruviana" was reported ill, being affected with Diarrhoea and vomiting—the case proved to be one of Ptomaine poisoning.

### HOSPITAL ACCOMMODATION.

The Cardiff Port Sanitary Authority possess well-equipped Hospitals—

- I. For *Small Pox* (within the Borough).
- II. The Flat Holmes Island Hospital for *Cholera*, *Yellow Fever*, and *Plague*.

## BARRY.

Medical Officer of Health—GEORGE NEALE, L.R.C.P.

The Barry Port Sanitary Authority was constituted in 1893. The floating population is roughly estimated at 1,200 persons, and the number of seamen dealt with was 69,325.

### INFECTIOUS DISEASES.

During the year, the following cases of Infectious Diseases were dealt with by the Medical Officer of Health, as follows :—

On 22nd March, the Master of the S.S. “ Kent ” reported that A. P., aged 18 years, was ill on board. Upon examination, he was found to be suffering from Typhoid Fever, and he was removed to the temporary Hospital (Bendrick Road). His rooms and effects were disinfected, and the fresh water tanks emptied and cleansed.

On 29th March, the Master of the S.S. “ Edith ” reported that B. F. S. was ill on board. The case proved to be one of Typhoid Fever, and the patient was removed to the Sanatorium. The fore-castle and his effects were disinfected, and the fresh water tanks were emptied and cleansed.

On the 26th July, the Master of the S.S. “ Harland ” reported that W. C. was ill on board. Upon examination he was found to be suffering from Small Pox, and he was forthwith removed to the Sanatorium. The vessel was disinfected, and a quantity of clothing destroyed, the remainder was removed for disinfection. The whole of the crew were re-vaccinated, and no other case occurred on board.

On the 17th September, the Chief Officer on board the Norwegian S.S. “ Skjalm,” from Risør, was found to be suffering from Typhoid Fever, and removed to the Sanatorium. The crew-spaces were disinfected, the fresh water tanks emptied and cleansed, and disinfection was carried out.

Four patients were admitted from the Port into the Hospital for Infectious Diseases belonging to the Barry Urban Sanitary Authority.

3,091 vessels were inspected; 2,568 were found in a fair and good condition; and 423 in a more or less defective or insanitary state.

The systematic inspection of shipping was efficiently carried out by the Chief Inspector and his assistants, and as a rule but little difficulty was experienced in obtaining compliance with the requirements of the Inspector.



# SWANSEA.

Medical Officer of Health—EBENEZER DAVIES, M.R.C.S., L.S.A.

Assistant Medical Officers of Health—

|   |                                    |
|---|------------------------------------|
| { | Dr. ALFRED HANSON, Swansea.        |
|   | Dr. J. ARNALLT JONES, Aberavon.    |
|   | Dr. E. VERNON PEGGE, Briton Ferry. |
|   | Dr. J. G. ALEXANDER, Porthcawl.    |

The Swansea Port Sanitary Authority has jurisdiction over the ports of Neath, Port Talbot and Porthcawl.

The following table shows the number of vessels inspected and the number of nuisances and defects dealt with :—

| Districts.        | Number of Vessels. |            |        | Number of Crew. | Nuisances Abated. |
|-------------------|--------------------|------------|--------|-----------------|-------------------|
|                   | Foreign.           | Coastwise. | Total. |                 |                   |
| Swansea .. ..     | 1,348              | 4,500      | 5,848* | 72,578          | 1,472             |
| Neath .. ..       | 171                | 601        | 772    | 7,677           | 20                |
| Port Talbot .. .. | 357                | 860        | 1,217  | 18,352          | 202               |
| Porthcawl .. ..   | 1                  | 1          | 2      | 16              | —                 |
|                   | 1,877              | 5,962      | 7,839  | 98,623          | 1,694             |

\*Including steam trawlers inspected.

The number of cases of sickness or injury that came to the knowledge of the Officers was 210. Of these, 1 was a case of Enteric, 1 of Measles, and 2 of Diphtheria, the other cases being non-notifiable.

# LOCAL GOVERNMENT BOARD INQUIRIES HELD DURING 1906.

| Date.            | Applicant.   | Amount. | Purpose.   | Result.          |
|------------------|--|---------|--|------------------|
| January 17th ... | Gelligaer & Rhigos Rural District Council            | .....   | Erection of an Infectious Diseases Hospital                                | Loan refused.    |
| March 13th ...   | Penarth Urban District Council ...                   | £700    | Works of Sewerage ...  | Loan sanctioned. |
| April 4th ...    | Borough of Merthyr Tydfil ...                        | £2,850  | Works of Sewerage ...  | Loan sanctioned. |
| April 5th ...    | Porthcawl Urban District Council ...                 | £11,319 | Water Supply   | Loan sanctioned. |
| May 1st... ..    | Swansea Rural District Council ...                   | £14,000 | Water Supply   | Loan sanctioned. |
| August 28th ...  | Neath Rural District Council ...                     | .....   | Works of Sewerage ...  | Loan sanctioned. |
| September 18th . | Penybont Rural District Council ...                  | .....   | Works of Sewerage ...  | Loan sanctioned. |
| October 9th ...  | Aberavon Borough Council ...                         | £425    | Works of Street Improvement .. }<br>Provision and alteration of a Urinal } | Loan sanctioned. |
| October 12th ... | Llantrisant & Llantwit Fardre Rural District Council | £600    | Infectious Diseases Hospital   | Loan sanctioned. |
| December 4th ... | Barry Urban District Council ...                     | £7,115  | Provision of an Accident Hospital...                                       | Loan sanctioned. |



TABLE I.

Area, Population, Births, Deaths.

| SANITARY DISTRICTS.                    | MEDICAL OFFICERS OF HEALTH.                   | Area<br>in<br>Acres. | Population,<br>Census<br>1891. | Population,<br>Census<br>1901. | Estimated<br>Population,<br>1906. | BIRTHS. |          |        | DEATHS. |          |        | ANNUAL RATES PER 1,000 OF ESTIMATED POPULATION. |                |                           |                            |                                    | Infant<br>Mortality<br>(Deaths<br>in<br>Children<br>under 1<br>year per<br>1,000<br>Births). | Deaths<br>in<br>Public<br>Institu-<br>tions. | Deaths<br>of Non-<br>Resi-<br>dents<br>regis-<br>tered in<br>District. | Deaths<br>of Resi-<br>dents<br>regis-<br>tered<br>beyond<br>District. | DEATHS AT ALL<br>AGES. NETT. |       |
|--|---|----------------------|--------------------------------|--------------------------------|-----------------------------------|---------|----------|--------|---------|----------|--------|---|----------------|---------------------------|----------------------------|------------------------------------|--|--|--|---|------------------------------|-------|
|  |   |                      |                                |                                |                                   | Males.  | Females. | Total. | Males.  | Females. | Total. | Birth<br>Rate.                                  | Death<br>Rate. | Zymotic<br>Death<br>Rate. | Phthisis<br>Death<br>Rate. | Respira-<br>tory<br>Death<br>Rate. |  |  |  |   | Number.                      | Rate. |
|  |   |                      |                                |                                |                                   |         |          |        |         |          |        |   |                |                           |                            |                                    |  |  |  |   |                              |       |
| 1                                      | 2   | 3                    | 4                              | 5                              | 6                                 | 7       | 8        | 9      | 10      | 11       | 12     | 13  | 14             | 15                        | 16                         | 17                                 | 18   | 19   | 20   | 21  | 22                           | 23    |
| URBAN.                                 |   |                      |                                |                                |                                   |         |          |        |         |          |        |   |                |                           |                            |                                    |  |  |  |   |                              |       |
| Aberavon Borough ... ..                | J. Arnallt Jones, M.D., D.P.H. ... ..         | 2,060                | 6,300                          | 7,553                          | 7,950                             | 164     | 157      | 321    | ...     | ...      | 108    | 40.3  | 13.5           | 1.7                       | 1.3                        | 2.8                                | 140  | ...  | ...  | ...   | 108                          | 13.5  |
| Aberdare ... ..                        | D. Davies, F.R.C.S. ... ..                    | 15,127               | 38,431                         | 43,365                         | 48,500                            | 696     | 773      | 1,469  | ...     | ...      | 850    | 30.28   | 17.52          | 2.06                      | 0.41                       | 4.06                               | 209  | ...  | ...  | ...   | 850                          | 17.52 |
| Barry ... ..                           | George Neale, L.R.C.P. ... ..                 | 4,104                | 13,278                         | 27,030                         | 31,272                            | 451     | 472      | 923    | 190     | 161      | 351    | 29.5  | 10.9           | 1.1                       | 1.1                        | 1.5                                | 114.8  | 13   | 11   | ...   | 340                          | 10.9  |
| Bridgend ... ..                        | Wyndham Randall, M.R.C.S., L.R.C.P. ... ..    | 629                  | 4,676                          | 6,062                          | 7,244                             | 104     | 92       | 196    | ...     | ...      | 129    | 27.06   | 17.81          | 0.81                      | 1.38                       | 1.51                               | 102.04   | 36   | 26   | 4   | 107                          | 14.77 |
| Briton Ferry ... ..                    | E. Vernon Pegge, M.R.C.S., L.R.C.P. ... ..    | 1,381                | 5,778                          | 6,973                          | 8,000                             | 142     | 128      | 270    | ...     | ...      | 123    | 33.6  | 15.3           | 1.5                       | 1.0                        | 3.12                               | 140.7  | ...  | ...  | ...   | 123                          | 15.3  |
| Caerphilly ... ..                      | T. W. Thomas, M.R.C.S., L.S.A. ... ..         | 17,000               | 8,064                          | 15,835                         | 22,500                            | 446     | 396      | 842    | 192     | 163      | 355    | 37.4  | 15.7           | 2.0                       | 0.4                        | 1.9                                | 154  | ...  | ...  | 10  | 365                          | 16.2  |
| Cowbridge Borough ... ..               | R. M. Moynan, M.D. ... ..                     | 84                   | 1,377                          | 1,202                          | 1,202                             | 8       | 13       | 21     | ...     | ...      | 22     | 17.4  | 18.3           | 0.0                       | 0.83                       | 4.1                                | Nil.   | ...  | ...  | ...   | 22                           | 18.3  |
| Glyncorwg ... ..                       | Henry Davies, M.B., C.M. ... ..               | 10,220               | 3,683                          | 6,452                          | 7,500                             | ...     | ...      | 340    | ...     | ...      | 99     | 52.3  | 15.23          | 0.8                       | 0.0                        | 2.53                               | 141.1  | ...  | ...  | ...   | 99                           | 15.23 |
| Maesteg ... ..                         | W. Kirkby, L.R.C.P., L.R.C.S. ... ..          | 6,709                | 9,417                          | 15,012                         | 22,468                            | 420     | 392      | 812    | 170     | 161      | 331    | 36.14   | 14.73          | 2.5                       | 0.62                       | 3.3                                | 136.6  | ...  | ...  | ...   | 321                          | 14.28 |
| Margam ... ..                          | J. H. Davies, M.D. ... ..                     | 18,347               | 6,274                          | 9,014                          | 10,500                            | 163     | 196      | 359    | 71      | 75       | 146    | 34.1  | 13.9           | 1.42                      | 0.85                       | 1.6                                | 116.9  | ...  | ...  | ...   | 146                          | 13.9  |
| Merthyr Borough ... ..                 | D. Duncan, M.B., C.M., D.P.H. ... ..          | 17,714               | 59,004                         | 69,228                         | 74,961                            | 1,368   | 1,336    | 2,704  | ...     | ...      | 1,463  | 36.2  | 19.5           | 2.9                       | 0.9                        | 3.8                                | 179  | 205  | 38   | ...   | 1,425                        | 19.0  |
| Mountain Ash ... ..                    | E. P. Evans, M.R.C.S., L.R.C.P. ... ..        | 10,554               | 17,826                         | 31,093                         | 41,224                            | 744     | 733      | 1,477  | ...     | ...      | 604    | 35.8  | 14.6           | 1.4                       | 0.84                       | 1.9                                | 170  | ...  | ...  | 17  | 604                          | 14.6  |
| Neath Borough ... ..                   | J. M. Morris, M.A., M.B., C.M., D.P.H. ... .. | 1,439                | 11,113                         | 13,720                         | 15,000                            | ...     | ...      | 488    | ...     | ...      | 255    | 32.4  | 17.0           | 1.93                      | 2.13                       | 2.53                               | 116.8  | 26   | 14   | ...   | 241                          | 16.06 |
| Ogmore and Garw ... ..                 | D. J. Thomas, M.R.C.S., L.R.C.P.I. ... ..     | 17,926               | 13,800                         | 19,907                         | 22,800                            | 448     | 433      | 881    | ...     | ...      | 340    | 38.6  | 14.9           | 1.71                      | 0.54                       | 3.4                                | 157.7  | ...  | ...  | ...   | 340                          | 14.9  |
| Oystermouth ... ..                     | A. L. Jones, M.R.C.S., L.S.A., D.P.H. ... ..  | 2,615                | 3,675                          | 4,461                          | 4,780                             | 64      | 54       | 118    | 29      | 22       | 51     | 24.68   | 10.66          | 0.0                       | 1.04                       | 0.83                               | 76.27  | ...  | ...  | ...   | 51                           | 10.66 |
| Penarth ... ..                         | C. D. Musgrove, M.D. ... ..                   | 2,798                | 12,424                         | 14,228                         | 15,300                            | 206     | 179      | 385    | ...     | ...      | 127    | 25.1  | 8.3            | 0.5                       | 0.9                        | 1.17                               | 80   | ...  | ...  | ...   | 127                          | 8.3   |
| Pontypridd ... ..                      | Howard Davies, M.R.C.S., L.S.A. ... ..        | 8,000                | 24,763                         | 32,316                         | 36,921                            | 548     | 551      | 1,099  | ...     | ...      | 567    | 29.7  | 15.3           | 1.75                      | 0.97                       | 2.1                                | 164.6  | ...  | 61   | 10  | 516                          | 13.8  |
| Porthcawl ... ..                       | J. D. Alexander, L.R.C.P.E., L.F.P.S. ... ..  | 3,365                | 1,758                          | 1,872                          | 2,400                             | 19      | 27       | 46     | 14      | 13       | 27     | 19.0  | 12.8           | Nil.                      | 1.66                       | 0.4                                | 43.4   | ...  | ...  | ...   | 27                           | 12.8  |
| Rhondda ... ..                         | J. D. Jenkins, M.D., B.S., D.P.H. ... ..      | 23,545               | 88,351                         | 113,735                        | 127,684                           | 2,407   | 2,344    | 4,751  | ...     | ...      | 2,014  | 37.2  | 15.8           | 2.4                       | 0.64                       | 3.5                                | 174  | 29   | 4  | 64  | 2,074                        | 16.2  |
| RURAL.                                 |   |                      |                                |                                |                                   |         |          |        |         |          |        |   |                |                           |                            |                                    |  |  |  |   |                              |       |
| Cowbridge ... ..                       | C. Booth Meller, M.R.C.S., L.R.C.P. ... ..    | 39,785               | 6,094                          | 6,834                          | 7,800                             | 106     | 96       | 202    | 40      | 46       | 86     | 25.8  | 11.2           | 0.3                       | 1.0                        | 1.8                                | 89.1   | ...  | ...  | ...   | 86                           | 11.2  |
| Gelligaer and Rhigos ... ..            | W. W. Jones, M.D., D.P.H. ... ..              | 22,985               | 13,718                         | 18,181                         | 26,760                            | 526     | 536      | 1,062  | 227     | 191      | 418    | 39.7  | 15.6           | 2.7                       | 0.59                       | 3.7                                | 143  | ...  | ...  | ...   | 418                          | 15.6  |
| Gower ... ..                           | A. E. Mole, M.B., C.M. ... ..                 | 50,275               | 7,432                          | 7,266                          | 7,266                             | ...     | ...      | 210    | ...     | ...      | 106    | 29.9  | 14.5           | 0.2                       | 0.2                        | 2.7                                | 57.1   | 1  | ...  | ...   | 106                          | 14.5  |
| Llandaff and Dinas Powis ... ..        | Richard Prichard, M.D., D.P.H. ... ..         | 65,469               | 18,539                         | 23,047                         | 25,841                            | 366     | 369      | 735    | 166     | 155      | 321    | 28.44   | 12.18          | 1.23                      | 0.92                       | 1.89                               | 95.0   | ...  | ...  | ...   | 321                          | 12.18 |
| Llantrisant and Llantwit Fardre ... .. | W. N. Davies, M.D. ... ..                     | 18,232               | 9,370                          | 11,845                         | 12,097                            | ...     | ...      | 453    | ...     | ...      | 188    | 37.4  | 15.5           | 1.65                      | 0.66                       | 2.8                                | 123.0  | ...  | ...  | ...   | 188                          | 15.5  |
| Neath ... ..                           | T. P. Whittington, L.R.C.P., L.R.C.S. ... ..  | 52,844               | 22,931                         | 27,343                         | 28,021                            | 612     | 533      | 1,145  | 265     | 223      | 488    | 40.85   | 17.41          | 1.4                       | 1.3                        | 3.06                               | 131  | ...  | ...  | ...   | 488                          | 17.41 |
| Penybont ... ..                        | Wyndham Randall, M.R.C.S., L.R.C.P. ... ..    | 40,023               | 14,331                         | 16,564                         | 16,014                            | 264     | 236      | 500    | 128     | 147      | 255    | 31.22   | 15.9           | 0.87                      | 0.68                       | 2.9                                | 116  | 187  | 180  | 9   | 255                          | 13.61 |
| Pontardawe—                            |   |                      |                                |                                |                                   |         |          |        |         |          |        |   |                |                           |                            |                                    |  |  |  |   |                              |       |
| East Division ... ..                   | D. Thomas, M.D. ... ..                        | 10,352               | 17,374                         | 20,933                         | 10,700                            | 230     | 174      | 404    | 88      | 100      | 188    | 39.0  | 17.5           | 0.55                      | 0.74                       | 2.9                                | 168.3  | ...  | ...  | ...   | 188                          | 17.5  |
| West Division ... ..                   | G. Griffiths, M.R.C.S., L.R.C.P. ... ..       | 17,971               |                                |                                | 13,205                            | 227     | 245      | 472    | 89      | 108      | 197    | 35.7  | 14.9           | 0.6                       | 0.9                        | 3.2                                | 137  | 8  | 6  | ...   | 191                          | 14.45 |
| Swansea—                               |   |                      |                                |                                |                                   |         |          |        |         |          |        |   |                |                           |                            |                                    |  |  |  |   |                              |       |
| Llangyfelach Division ... ..           | E. Rice Morgan, M.R.C.S., L.S.A. ... ..       | 10,001               | 27,488                         | 29,990                         | 22,370                            | 189     | 151      | 340    | ...     | ...      | 146    | 31.6  | 13.5           | 1.66                      | 0.54                       | 1.4                                | 117  | ...  | ...  | ...   | 146                          | 13.5  |
| Llandilo-Talybont Division ... ..      | Trafford Mitchell, M.D., D.P.H. ... ..        | 20,893               |                                |                                | 10,998                            | 395     | 315      | 710    | ...     | ...      | 290    | 31.7  | 12.9           | 0.93                      | 0.98                       | 1.74                               | 136  | 3  | 2  | 8   | 296                          | 13.2  |

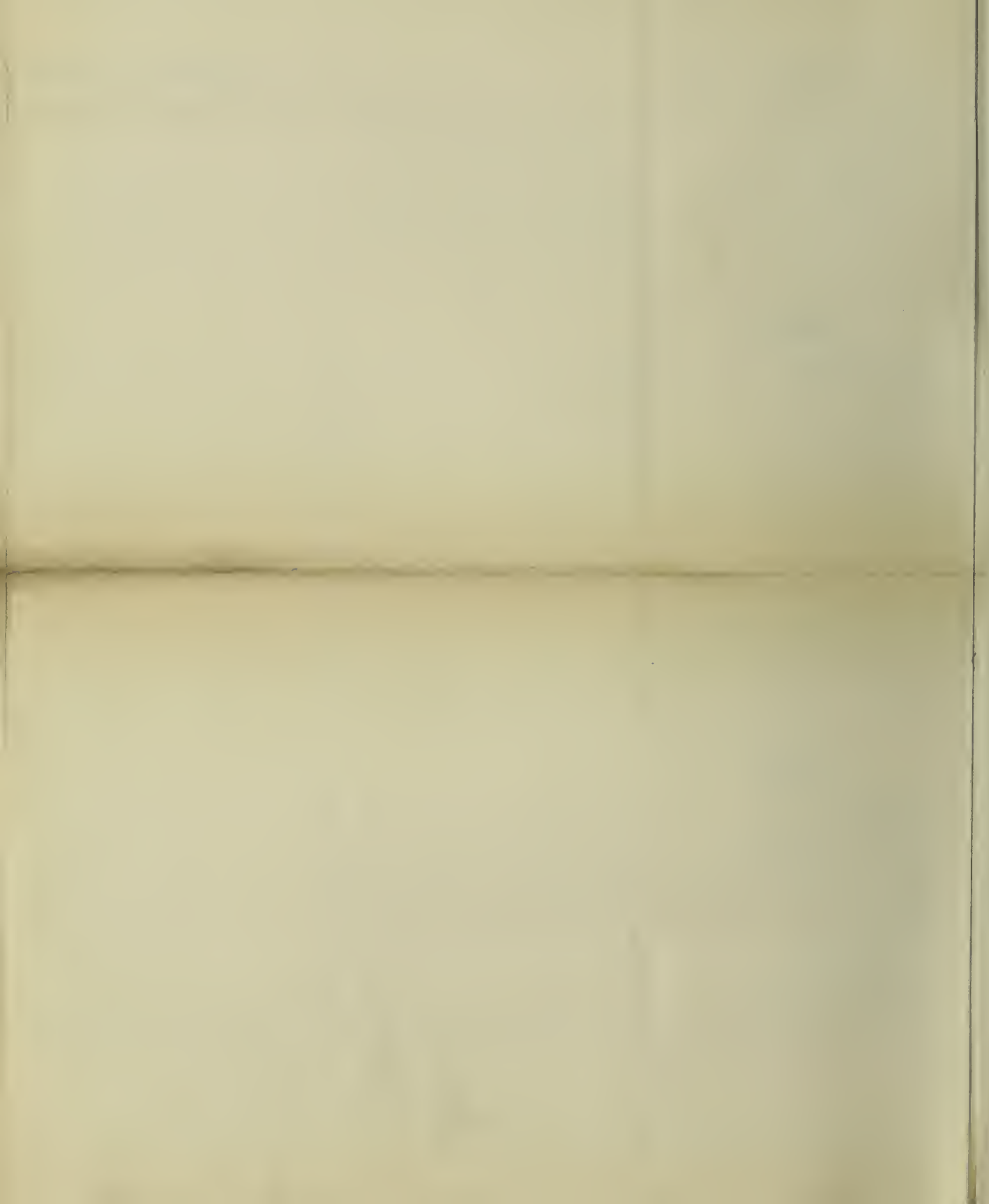




TABLE II.

Deaths at certain Ages and from Specified Causes.

| SANITARY DISTRICTS.                    | DEATHS AT SUBJOINED AGES. |                |                 |                  |                  |                 |              | CAUSES OF DEATH. |          |                |                 |                                  |        |         |          |                  |                     |          |         |            |            |                  |             |                        |           |                            |                            |             |            |           |                                       |                                 |                    |                  |  |                 |            |           |           |                   |     |  |
|--|---------------------------|----------------|-----------------|------------------|------------------|-----------------|--------------|------------------|----------|----------------|-----------------|----------------------------------|--------|---------|----------|------------------|---------------------|----------|---------|------------|------------|------------------|-------------|------------------------|-----------|----------------------------|----------------------------|-------------|------------|-----------|---------------------------------------|---------------------------------|--------------------|------------------|--|-----------------|------------|-----------|-----------|-------------------|-----|--|
|  | Under 1 year.             | 1 and under 5. | 5 and under 15. | 15 and under 25. | 25 and under 65. | 65 and upwards. | At all Ages. | Small-pox.       | Measles. | Scarlet Fever. | Whooping Cough. | Diphtheria and Membranous Group. | Croup. | FEVER.  |          |                  | Epidemic Influenza. | Cholera. | Plague. | Diarrhoea. | Enteritis. | Puerperal Fever. | Erysipelas. | Other Septic Diseases. | Phthisis. | Other Tubercular Diseases. | Cancer, Malignant Disease. | Bronchitis. | Pneumonia. | Pleurisy. | Other Diseases of Respiratory Organs. | Alcoholism, Cirrhosis of Liver. | Venereal Diseases. | Premature Birth. | Diseases and Accidents of Parturition. | Heart Diseases. | Accidents. | Suicides. | Inquests. | All other Causes. |     |  |
|  |                           |                |                 |                  |                  |                 |              |                  |          |                |                 |                                  |        | Typhus. | Enteric. | Other continued. |                     |          |         |            |            |                  |             |                        |           |                            |                            |             |            |           |                                       |                                 |                    |                  |  |                 |            |           |           |                   |     |  |
| I                                      | 2                         | 3              | 4               | 5                | 6                | 7               | 8            | 9                | 10       | 11             | 12              | 13                               | 14     | 15      | 16       | 17               | 18                  | 19       | 20      | 21         | 22         | 23               | 24          | 25                     | 26        | 27                         | 28                         | 29          | 30         | 31        | 32                                    | 33                              | 34                 | 35               | 36                                     | 37              | 38         | 39        | 40        | 41                |     |  |
| URBAN.                                 |                           |                |                 |                  |                  |                 |              |                  |          |                |                 |                                  |        |         |          |                  |                     |          |         |            |            |                  |             |                        |           |                            |                            |             |            |           |                                       |                                 |                    |                  |  |                 |            |           |           |                   |     |  |
| Aberavon Borough ... ..                | 45                        | 11             | 2               | 8                | 27               | 15              | 108          | ...              | ...      | ...            | 5               | ...                              | ...    | ...     | 2        | ...              | ...                 | ...      | ...     | 7          | 2          | ...              | ...         | ...                    | 10        | 1                          | 3                          | 15          | 8          | ...       | 2                                     | ...                             | ...                | 4                | 2                                      | 9               | 3          | 1         | ...       | 34                |     |  |
| Aberdare ... ..                        | 308                       | 101            | 35              | 43               | 216              | 147             | 850          | ...              | 3        | 11             | 25              | 10                               | 3      | ...     | 5        | ...              | 6                   | ...      | ...     | 46         | ...        | 4                | 1           | ...                    | 20        | ...                        | 31                         | 70          | 122        | 3         | ...                                   | ...                             | ...                | ...              | ...                                    | ...             | ...        | 43        | 447       |                   |     |  |
| Barry ... ..                           | 106                       | 46             | 25              | 14               | 117              | 43              | 351          | ...              | 1        | 5              | 1               | 4                                | 1      | ...     | 3        | ...              | ...                 | ...      | 16      | 4          | 3          | ...              | ...         | ...                    | 35        | 12                         | 13                         | 18          | 29         | 3         | 8                                     | 5                               | 1                  | 27               | 5                                      | 46              | 20         | 2         | ...       | 89                |     |  |
| Bridgend ... ..                        | 20                        | 13             | 6               | 6                | 40               | 22              | 107          | ...              | ...      | ...            | ...             | 1                                | ...    | ...     | ...      | ...              | 2                   | ...      | ...     | 6          | 2          | 1                | ...         | 1                      | 10        | 4                          | 4                          | 5           | 6          | ...       | 2                                     | 3                               | ...                | 4                | ...                                    | 10              | 4          | 1         | ...       | 41                |     |  |
| Briton Ferry ... ..                    | 38                        | 19             | 5               | 5                | 30               | 26              | 123          | ...              | ...      | ...            | 1               | 3                                | ...    | ...     | 1        | ...              | ...                 | ...      | 7       | 3          | ...        | ...              | ...         | ...                    | 8         | 4                          | 5                          | 12          | 12         | 1         | ...                                   | ...                             | ...                | 4                | 2                                      | 7               | 7          | ...       | ...       | 46                |     |  |
| Caerphilly ... ..                      | 131                       | 44             | 19              | 8                | 114              | 50              | 366          | ...              | ...      | 3              | 1               | 11                               | 1      | ...     | ...      | ...              | 5                   | ...      | ...     | 3          | 5          | 1                | ...         | 2                      | 10        | 9                          | 14                         | 15          | 28         | 1         | 4                                     | 1                               | 1                  | ...              | 4                                      | 30              | 12         | 1         | 8         | 65                |     |  |
| Cowbridge ... ..                       | ...                       | 3              | ...             | ...              | 12               | 7               | 22           | ...              | ...      | ...            | ...             | ...                              | ...    | ...     | ...      | ...              | 1                   | ...      | ...     | ...        | 1          | ...              | ...         | ...                    | 1         | ...                        | 2                          | 3           | 2          | ...       | ...                                   | ...                             | ...                | ...              | 4                                      | ...             | 1          | 1         | ...       | 6                 |     |  |
| Glyncorwg ... ..                       | 35                        | 10             | ...             | ...              | ...              | ...             | ...          | ...              | ...      | ...            | 2               | ...                              | 2      | ...     | 1        | ...              | ...                 | ...      | 3       | 4          | ...        | ...              | 3           | ...                    | 7         | 3                          | 6                          | 13          | ...        | ...       | ...                                   | 1                               | ...                | 8                | ...                                    | 6               | 4          | ...       | ...       | 38                |     |  |
| Maesteg ... ..                         | 111                       | 63             | 12              | 17               | 84               | 44              | 331          | ...              | 2        | ...            | 13              | 3                                | 1      | ...     | 2        | ...              | 2                   | ...      | ...     | 36         | 6          | 1                | ...         | 2                      | 14        | 10                         | 8                          | 32          | 33         | ...       | 11                                    | 3                               | ...                | 12               | 5                                      | 22              | 16         | 2         | ...       | 95                |     |  |
| Margam ... ..                          | 47                        | 14             | 1               | 6                | 28               | 17              | 146          | ...              | 4        | 1              | 9               | ...                              | ...    | ...     | ...      | ...              | 1                   | ...      | ...     | 1          | 1          | 1                | 1           | ...                    | 9         | 3                          | 9                          | 8           | 9          | ...       | 1                                     | ...                             | 1                  | 9                | 10                                     | 12              | 4          | 2         | ...       | 50                |     |  |
| Merthyr Borough ... ..                 | 487                       | 214            | 46              | 62               | 446              | 170             | 1425         | ...              | ...      | 11             | 31              | 31                               | 6      | ...     | 11       | ...              | 12                  | ...      | ...     | 134        | 9          | 3                | 2           | 12                     | 73        | 38                         | 49                         | 113         | 171        | 7         | 10                                    | 6                               | 10                 | 46               | 9                                      | 110             | 50         | 3         | ...       | 468               |     |  |
| Mountain Ash ... ..                    | 252                       | 68             | 24              | 32               | 157              | 71              | 604          | ...              | 6        | ...            | 7               | 12                               | 2      | ...     | 5        | ...              | 7                   | ...      | ...     | 29         | 26         | 1                | ...         | 1                      | 35        | 12                         | 11                         | 28          | 48         | 4         | 8                                     | 2                               | 1                  | 31               | 1                                      | 45              | 39         | 2         | ...       | 241               |     |  |
| Neath Borough ... ..                   | 57                        | 32             | 10              | 14               | 71               | 57              | 241          | ...              | 1        | 1              | 1               | 2                                | ...    | ...     | ...      | ...              | ...                 | ...      | 24      | 3          | ...        | ...              | ...         | 32                     | 5         | 9                          | 12                         | 26          | ...        | 1         | 1                                     | ...                             | 7                  | 1                | 22                                     | 9               | ...        | ...       | 84        |                   |     |  |
| Ogmore and Garw ... ..                 | 139                       | 46             | 14              | 18               | 84               | 39              | 340          | ...              | ...      | 1              | 5               | 4                                | ...    | ...     | 1        | ...              | 1                   | ...      | ...     | 28         | 5          | 1                | 1           | 2                      | 12        | 6                          | 11                         | 35          | 41         | 2         | 7                                     | 1                               | ...                | 14               | 2                                      | 22              | 14         | ...       | ...       | 124               |     |  |
| Oystermouth ... ..                     | 9                         | 6              | ...             | 3                | 18               | 15              | 51           | ...              | ...      | ...            | ...             | ...                              | ...    | ...     | ...      | ...              | ...                 | ...      | ...     | ...        | 2          | ...              | ...         | ...                    | 5         | 1                          | 5                          | 1           | 3          | ...       | 2                                     | ...                             | ...                | 6                | ...                                    | 5               | 3          | ...       | ...       | 18                |     |  |
| Penarth ... ..                         | 31                        | 6              | 10              | 7                | 47               | 26              | 127          | ...              | ...      | 2              | 2               | 3                                | ...    | ...     | ...      | ...              | ...                 | ...      | 5       | 7          | ...        | 1                | ...         | 14                     | 5         | 4                          | 6                          | 10          | ...        | ...       | 2                                     | ...                             | 8                  | 3                | 13                                     | 4               | ...        | ...       | 38        |                   |     |  |
| Pontypridd ... ..                      | 184                       | 40             | 20              | 20               | 156              | 96              | 516          | ...              | 2        | 1              | 3               | 2                                | 2      | ...     | 3        | ...              | 5                   | ...      | ...     | 54         | 6          | 1                | ...         | 2                      | 36        | 17                         | 19                         | 29          | 50         | ...       | 1                                     | 3                               | ...                | 27               | 4                                      | 34              | 17         | ...       | 16        | 182               |     |  |
| Porthcawl ... ..                       | 2                         | ...            | ...             | 1                | 13               | 11              | 27           | ...              | ...      | ...            | ...             | ...                              | ...    | ...     | ...      | ...              | ...                 | ...      | ...     | ...        | ...        | ...              | ...         | ...                    | 4         | ...                        | 3                          | ...         | 1          | ...       | ...                                   | ...                             | ...                | 7                | ...                                    | ...             | ...        | ...       | ...       | 12                |     |  |
| Rhondda ... ..                         | 821                       | 258            | 73              | 95               | 560              | 260             | 2074         | ...              | 24       | 9              | 27              | 25                               | ...    | ...     | 20       | ...              | 19                  | ...      | ...     | 206        | ...        | 8                | 2           | 27                     | 82        | 36                         | 75                         | 175         | 177        | 9         | ...                                   | 5                               | 5                  | 69               | 18                                     | 108             | 119        | ...       | ...       | ...               | 865 |  |
| RURAL.                                 |                           |                |                 |                  |                  |                 |              |                  |          |                |                 |                                  |        |         |          |                  |                     |          |         |            |            |                  |             |                        |           |                            |                            |             |            |           |                                       |                                 |                    |                  |  |                 |            |           |           |                   |     |  |
| Cowbridge ... ..                       | 17                        | 4              | 4               | 2                | 26               | 33              | 86           | ...              | ...      | ...            | 1               | ...                              | 1      | ...     | ...      | ...              | 2                   | ...      | ...     | ...        | ...        | ...              | ...         | ...                    | 8         | 2                          | 6                          | 8           | 7          | ...       | ...                                   | ...                             | ...                | 4                | ...                                    | 17              | 5          | 1         | ...       | ...               | 24  |  |
| Gelligaer and Rhigos ... ..            | 148                       | 70             | 21              | 21               | 112              | 46              | 418          | ...              | 15       | 2              | 16              | 6                                | ...    | ...     | 4        | ...              | ...                 | ...      | ...     | 29         | 7          | 2                | ...         | ...                    | 16        | 10                         | 12                         | 40          | 55         | 2         | 3                                     | 3                               | ...                | 15               | 5                                      | 23              | 27         | 3         | ...       | 123               |     |  |
| Gower ... ..                           | 11                        | 6              | 6               | 10               | 35               | 38              | 106          | ...              | ...      | ...            | 2               | ...                              | ...    | ...     | ...      | ...              | 2                   | ...      | ...     | ...        | 1          | ...              | ...         | ...                    | 10        | 2                          | 8                          | 5           | 15         | ...       | ...                                   | 4                               | ...                | ...              | 1                                      | 12              | 6          | ...       | ...       | 38                |     |  |
| Llandaff and Dinas Powis ... ..        | 70                        | 29             | 15              | 15               | 98               | 94              | 321          | ...              | 2        | 2              | 5               | 3                                | 1      | ...     | 2        | ...              | 12                  | ...      | ...     | 18         | 4          | ...              | ...         | 2                      | 24        | 7                          | 17                         | 21          | 27         | 1         | 2                                     | 1                               | 1                  | 14               | 5                                      | 32              | 13         | 1         | ...       | 104               |     |  |
| Llantrisant and Llantwit Fardre ... .. | 56                        | 19             | 7               | 7                | 65               | 40              | 194          | ...              | ...      | ...            | 5               | 5                                | ...    | ...     | 1        | 1                | ...                 | ...      | ...     | 1          | 7          | 1                | ...         | ...                    | 8         | 6                          | 7                          | 15          | 20         | ...       | ...                                   | 1                               | 1                  | 11               | 1                                      | 22              | 17         | ...       | ...       | 64                |     |  |
| Neath ... ..                           | 150                       | 53             | 19              | 24               | 159              | 83              | 488          | ...              | 11       | 3              | 3               | 6                                | 1      | ...     | 2        | 1                | 4                   | ...      | ...     | 14         | 3          | 1                | ...         | 2                      | 38        | 14                         | 17                         | 35          | 29         | 2         | 14                                    | 4                               | 1                  | 16               | 4                                      | 40              | 22         | 1         | ...       | 200               |     |  |
| Penybont ... ..                        | 58                        | 29             | 15              | 10               | 77               | 66              | 255          | ...              | ...      | 1              | 4               | 5                                | ...    | ...     | 1        | ...              | 4                   | ...      | ...     | 3          | 3          | 2                | ...         | 2                      | 11        | 9                          | 16                         | 20          | 27         | ...       | 3                                     | 3                               | ...                | 5                | 1                                      | 25              | 15         | 1         | ...       | 94                |     |  |
| Pontardawe—                            |                           |                |                 |                  |                  |                 |              |                  |          |                |                 |                                  |        |         |          |                  |                     |          |         |            |            |                  |             |                        |           |                            |                            |             |            |           |                                       |                                 |                    |                  |  |                 |            |           |           |                   |     |  |
| East Division ... ..                   | 68                        | 13             | 8               | 5                | 52               | 42              | 188          | ...              | 1        | ...            | ...             | 1                                | ...    | ...     | ...      | ...              | ...                 | ...      | ...     | 4          | 20         | ...              | ...         | 1                      | 8         | 9                          | 12                         | 22          | 10         | ...       | ...                                   | ...                             | 1                  | 13               | 5                                      | 20              | 7          | 1         | ...       | 53                |     |  |
| West Division ... ..                   | 65                        | 25             | 7               | 5                | 63               | 32              | 197          | ...              | ...      | ...            | 5               | 3                                | ...    | ...     | ...      | ...              | ...                 | ...      | ...     | ...        | 8          | 1                | ...         | 6                      | 13        | 7                          | 8                          | 16          | 27         | ...       | ...                                   | 1                               | ...                | 12               | ...                                    | 16              | 6          | 1         | ...       | 67                |     |  |
| Swansea—                               |                           |                |                 |                  |                  |                 |              |                  |          |                |                 |                                  |        |         |          |                  |                     |          |         |            |            |                  |             |                        |           |                            |                            |             |            |           |                                       |                                 |                    |                  |  |                 |            |           |           |                   |     |  |
| Llangyfelach Division ... ..           | 40                        | 16             | 9               | 6                | 47               | 28              | 146          | ...              | 9        | 1              | 1               | 6                                | ...    | ...     | 1        | ...              | 3                   | ...      | ...     | ...        | 2          | ...              | ...         | ...                    | 6         | 1                          | 3                          | 7           | 8          | 1         | ...                                   | ...                             | ...                | 3                | 1                                      | 22              | 8          | ...       | ...       | 63                |     |  |
| Llandilo-Talybont Division ... ..      | 97                        | 28             | 12              | 17               | 89               | 53              | 296          | ...              | 1        | 2              | 5               | 1                                | ...    | ...     | 3        | ...              | 5                   | ...      | ...     | 9          | ...        | 1                | ...         | 1                      | 22        | 14                         | 18                         | 10          | 29         | ...       | 1                                     | 5                               | ...                | 11               | 5                                      | 24              | 16         | 1         | ...       | 112               |     |  |





## Infantile Mortality.

| SANITARY DISTRICTS |     | Under<br>1 Month. | 1-2 Months. | 2-3 Months. | 3-4 Months. | 4-5 Months. | 5-6 Months. | 6-7 Months. | 7-8 Months. | 8-9 Months. | 9-10 Months. | 10-11 Months. | 11-12 months. | 14            | 15  | Chicken Pox. | Measles. | Scarlet Fever. | Diphtheria<br>and Croup. | Whooping<br>Cough. | Diarrhoea. | Enteritis. | Gastritis. | Premature<br>Birth. | Congenital<br>Defects. | Injury at<br>Birth. | Want of<br>Breast Milk. | Atrophy,<br>Debility,<br>Marasmus. | Tuberculous<br>Meningitis. | Tuberculous<br>Peritonitis. | Other<br>Tubercular<br>Diseases. | Erysipelas. | Syphilis. | Rickets. | Meningitis<br>(not<br>Tuberculous). | Convulsions. | Bronchitis. | Laryngitis. | Pneumonia. | Suffocation. | Jaundice. | Other<br>Causes. | All Causes. | Death<br>Rate<br>per 1,000<br>Births. |       |        |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |
|--------------------|-----|-------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|---------------|---------------|---------------|-----|--------------|----------|----------------|--------------------------|--------------------|------------|------------|------------|---------------------|------------------------|---------------------|-------------------------|------------------------------------|----------------------------|-----------------------------|----------------------------------|-------------|-----------|----------|-------------------------------------|--------------|-------------|-------------|------------|--------------|-----------|------------------|-------------|---------------------------------------|-------|--------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| I                  |     | 2                 | 3           | 4           | 5           | 6           | 7           | 8           | 9           | 10          | 11           | 12            | 13            |               |     | 16           | 17       | 18             | 19                       | 20                 | 21         | 22         | 23         | 24                  | 25                     | 26                  | 27                      | 28                                 | 29                         | 30                          | 31                               | 32          | 33        | 34       | 35                                  | 36           | 37          | 38          | 39         | 40           | 41        | 42               | 43          | 44                                    |       |        |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |
| URBAN.             |     |                   |             |             |             |             |             |             |             |             |              |               |               |               |     |              |          |                |                          |                    |            |            |            |                     |                        |                     |                         |                                    |                            |                             |                                  |             |           |          |                                     |              |             |             |            |              |           |                  |             |                                       |       |        |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |
| Aberavon Borough   | ... | 13                | 6           | 5           | 1           | 4           | 3           | 4           | 3           | 1           | 2            | 1             | 2             | Under 1 month | ... | ...          | ...      | ...            | ...                      | ...                | ...        | ...        | 1          | 1                   | ...                    | ...                 | ...                     | 4                                  | ...                        | ...                         | ...                              | ...         | ...       | ...      | ...                                 | 4            | 9           | ...         | ...        | ...          | ...       | 3                | 13          | 45                                    | 140   |        |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |
| Aberdare           | ... | ...               | ...         | ...         | ...         | ...         | ...         | ...         | ...         | ...         | ...          | ...           | ...           | Over 1 month  | ... | ...          | 1        | ...            | ...                      | ...                | ...        | ...        | 3          | ...                 | ...                    | ...                 | ...                     | ...                                | ...                        | ...                         | ...                              | ...         | ...       | ...      | ...                                 | ...          | 9           | 9           | ...        | ...          | ...       | ...              | 32          | 32                                    | 209   |        |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |
| Barry              | ... | 50                | 9           | 3           | 5           | 4           | 4           | 5           | 5           | 9           | 2            | 3             | 7             | Under 1 month | ... | ...          | ...      | ...            | ...                      | ...                | ...        | ...        | 26         | 5                   | ...                    | ...                 | ...                     | 6                                  | ...                        | ...                         | ...                              | ...         | ...       | ...      | ...                                 | 6            | 2           | ...         | ...        | ...          | ...       | 5                | 50          | 106                                   | 114.8 |        |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |
| Bridgend           | ... | 7                 | 5           | 2           | 2           | ...         | 1           | ...         | 1           | 1           | ...          | 1             | ...           | Over 1 month  | ... | ...          | ...      | ...            | ...                      | ...                | ...        | ...        | 1          | ...                 | ...                    | ...                 | ...                     | 1                                  | 2                          | 2                           | 3                                | ...         | 1         | 1        | 1                                   | 10           | 5           | ...         | 11         | ...          | ...       | ...              | 1           | 56                                    | 20    | 102.04 |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |
| Briton Ferry       | ... | 17                | 4           | 2           | 1           | 3           | 1           | 3           | 4           | ...         | 1            | 1             | 1             | Under 1 month | ... | ...          | ...      | ...            | ...                      | ...                | ...        | ...        | 3          | ...                 | 5                      | 1                   | ...                     | ...                                | 5                          | ...                         | ...                              | ...         | ...       | ...      | ...                                 | 2            | 2           | 1           | ...        | 2            | ...       | ...              | ...         | 7                                     | 7     | 38     | 140.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |
| Caerphilly         | ... | 43                | 19          | 10          | 9           | 8           | 8           | 7           | 10          | 2           | 6            | 3             | 5             | Over 1 month  | ... | ...          | ...      | ...            | ...                      | ...                | ...        | ...        | ...        | ...                 | ...                    | ...                 | ...                     | ...                                | ...                        | ...                         | ...                              | ...         | ...       | ...      | ...                                 | 1            | 4           | 4           | ...        | 1            | ...       | 4                | 45          | 131                                   | 154   |        |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |
| Cowbridge Borough  | ... | ...               | ...         | ...         | ...         | ...         | ...         | ...         | ...         | ...         | ...          | ...           | ...           | Under 1 month | ... | ...          | ...      | ...            | ...                      | ...                | ...        | ...        | ...        | ...                 | ...                    | ...                 | ...                     | ...                                | ...                        | ...                         | ...                              | ...         | ...       | ...      | ...                                 | ...          | ...         | ...         | ...        | ...          | ...       | ...              | ...         | ...                                   | ...   | ...    | ...   | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ...</ |

*I would call the attention of the Medical Officers of Health to the importance of filling this Table up carefully, so that the figures balance with those given in the Appendix. This year the figures do not correspond.*





TABLE IV.

## Notification, Isolation, Adoptive Acts.

| SANITARY DISTRICTS.<br><br>I           | CASES NOTIFIED. |                |             |                   |         |          |            |            |             |          |                 | CASES REMOVED TO HOSPITAL. |                |             |                |             |                  |
|--|-----------------|----------------|-------------|-------------------|---------|----------|------------|------------|-------------|----------|-----------------|----------------------------|----------------|-------------|----------------|-------------|------------------|
|  | Small Pox.      | Scarlet Fever. | Diphtheria. | Membranous Group. | FEVERS. |          |            |            | Erysipelas. | Measles. | Whooping Cough. | Small Pox.                 | Scarlet Fever. | Diphtheria. | Enteric Fever. | Erysipelas. | Puerperal Fever. |
|  |                 |                |             |                   | Typhus. | Enteric. | Continued. | Puerperal. |             |          |                 |                            |                |             |                |             |                  |
|  | 2               | 3              | 4           | 5                 | 6       | 7        | 8          | 9          | 10          | 11       | 12              | 13                         | 14             | 15          | 16             | 17          | 18               |
| URBAN.                                 |                 |                |             |                   |         |          |            |            |             |          |                 |                            |                |             |                |             |                  |
| Aberavon Borough ... ..                | ...             | 2              | 4           | ...               | ...     | 2        | ...        | 4          | 6           | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| Aberdare... ..                         | ...             | 206            | 106         | 8                 | ...     | 34       | ...        | 6          | 74          | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| Barry ... ..                           | 1               | 247            | 19          | 3                 | ...     | 18       | ...        | 3          | 41          | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| Bridgend... ..                         | ...             | 12             | 11          | ...               | ...     | 4        | ...        | 2          | 2           | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| Briton Ferry ... ..                    | ...             | 13             | 20          | ...               | ...     | 3        | ...        | ...        | 1           | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| Caerphilly ... ..                      | ...             | 167            | 47          | ...               | ...     | 12       | ...        | 2          | 3           | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| Cowbridge Borough ... ..               | ...             | 1              | ...         | ...               | ...     | ...      | ...        | ...        | 3           | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| Glyncorwg ... ..                       | ...             | 8              | 10          | ...               | ...     | 22       | ...        | 1          | 3           | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| Maesteg ... ..                         | ...             | 20             | 6           | ...               | ...     | 23       | ...        | 1          | 4           | ...      | ...             | ...                        | 4              | ...         | 12             | ...         | ...              |
| Margam ... ..                          | ...             | 32             | 30          | 11                | ...     | 1        | ...        | 1          | 29          | ...      | ...             | ...                        | 19             | 9           | ...            | ...         | ...              |
| Merthyr Borough ... ..                 | 1               | 245            | 120         | ...               | ...     | 85       | ...        | 7          | 51          | ...      | ...             | 1                          | ...            | 120         | 245            | 51          | ...              |
| Mountain Ash ... ..                    | ...             | 58             | 65          | ...               | ...     | 18       | ...        | 9          | 22          | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| Neath Borough ... ..                   | ...             | 10             | 6           | ...               | ...     | 3        | ...        | ...        | 19          | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| Ogmore and Garw ... ..                 | ...             | 45             | 13          | 6                 | ...     | 20       | ...        | 4          | 20          | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| Oystermouth ... ..                     | ...             | ...            | 4           | ...               | ...     | ...      | ...        | 1          | 4           | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| Penarth ... ..                         | ...             | 136            | 60          | ...               | ...     | 4        | ...        | ...        | 13          | ...      | ...             | ...                        | 97             | 47          | 3              | ...         | ...              |
| Pontypridd ... ..                      | ...             | 91             | 64          | 1                 | ...     | 52       | ...        | 3          | 28          | ...      | ...             | ...                        | ...            | 28          | 43             | ...         | ...              |
| Porthcawl ... ..                       | ...             | 2              | 1           | ...               | ...     | 2        | ...        | ...        | ...         | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| Rhondda... ..                          | ...             | 362            | 186         | 8                 | ...     | 123      | 3          | 18         | 79          | ...      | ...             | ...                        | ...            | 79          | 88             | ...         | ...              |
| RURAL.                                 |                 |                |             |                   |         |          |            |            |             |          |                 |                            |                |             |                |             |                  |
| Cowbridge ... ..                       | ...             | 14             | 9           | ...               | ...     | 2        | ...        | ...        | 9           | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| Gelligaer and Rhigos ... ..            | ...             | 54             | 59          | ...               | ...     | 46       | ...        | 4          | 11          | ...      | ...             | ...                        | ...            | 4           | 36             | ...         | ...              |
| Gower ... ..                           | ...             | 4              | 7           | ...               | ...     | 1        | ...        | ...        | 2           | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| Llandaff and Dinas Powis ... ..        | ...             | 95             | 70          | ...               | ...     | 11       | ...        | 2          | 19          | ...      | 62              | ...                        | 28             | 29          | 6              | ...         | ...              |
| Llantrisant and Llantwit Vardre ... .. | ...             | 24             | 21          | 3                 | ...     | 11       | 1          | 3          | 10          | ...      | ...             | ...                        | ...            | 6           | 4              | ...         | ...              |
| Neath ... ..                           | ...             | 96             | 19          | 9                 | ...     | 10       | ...        | 2          | 26          | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| Penybont ... ..                        | ...             | 42             | 25          | ...               | ...     | 3        | ...        | 2          | 16          | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| Pontardawe—                            |                 |                |             |                   |         |          |            |            |             |          |                 |                            |                |             |                |             |                  |
| East Division ... ..                   | ...             | 2              | 1           | ...               | ...     | ...      | ...        | ...        | 3           | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| West Division ... ..                   | ...             | 62             | 12          | 2                 | ...     | 5        | ...        | 1          | 15          | ...      | ...             | ...                        | 26             | ...         | ...            | ...         | ...              |
| Swansea—                               |                 |                |             |                   |         |          |            |            |             |          |                 |                            |                |             |                |             |                  |
| Llangyfelach Division ... ..           | ...             | 13             | 17          | 1                 | ...     | 5        | ...        | ...        | 2           | ...      | ...             | ...                        | ...            | ...         | ...            | ...         | ...              |
| Llandilo-Talybont Division ... ..      | ...             | 55             | 56          | ...               | ...     | 34       | ...        | 2          | 13          | ...      | ...             | ...                        | 42             | 55          | 17             | ...         | ...              |

